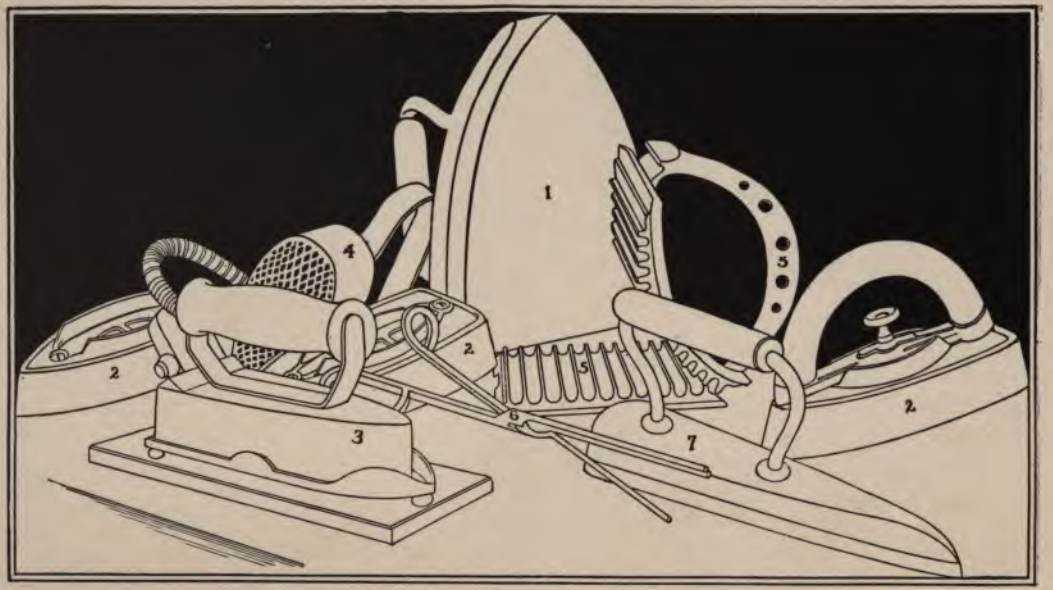
A GUIDE TO LAUNDRY WORK

MARY D. CHAMBERS



A GROUP OF FLAT IRONS

1. Sad Iron. 2. Mrs. Potts' Irons (3 in set). 3. Electric Iron. 4. Polishing Iron (Troy Polisher). 5. Fluting Iron. 6. Goffering Iron. 7. Flounce, or Sleeve Iron.

A GUIDE
TO
LAUNDRY-WORK

A Manual for Home and School

BY

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TO

ALL TEACHERS OF LAUNDRY-WORK

AND TO

ALL THE SKILLED HOUSEWIVES WHO DEVELOP THIS
WORK INTO A FINE ART IN THE HOME
THIS MANUAL IS DEDICATED

FOREWORD

To the Teacher

A HIGH SCHOOL girl who was studying chemistry at the same time that she took a course in laundry work found so many opportunities to apply her more formal laboratory science in her manual work that she once exclaimed enthusiastically to her teacher: "I think chemistry was *made* for laundry work!"

Aside from its value as a correlation field for both physics and chemistry, laundry work is an excellent form of manual training for girls, offering, as it does, many of the advantages of the forge work for boys. The rough garment, like the crude metal, has to be modeled by the application of heat and pressure; the iron must be the right temperature, the pressure must be skillfully applied, faulty parts must be gone over and over again until the right surface and texture is produced. Even the rougher cleansing processes, restoring the soiled linen to its original freshness and purity, may be made truly educative in fostering a love of dainty and perfect cleanliness — that outward sign of the inward grace of true refinement which forever distinguishes the gentlewoman.

To the Home Maker

Some people say laundry work is on its way out of the home, just as weaving and dyeing and other activities have wended their way out of the home and into the factory. Yet architects are providing for the laundry in their plans for dwelling houses, no apartment kitchen is complete without a set of stationary tubs, the "Want" columns of the news-

papers every day call for family laundresses, formal lessons in this gentle art are gradually entering into the schools, and the women who are doing their washing at home are many, many times more numerous than the women who are sending it out.

It is then, perhaps, pardonable to question whether laundry work, like cooking, is not one of those intimate and personal activities that can never be performed so satisfactorily by wholesale methods. And further, whether— if it is really true that it is on its way out of the home — is it not a long, long way from being gone?

The following papers were written in the desire and expectation of being helpful to all women who still have washtubs and use them.

My thanks are due, in the compilation of this book, to the editor of the *Forecast Magazine* for his courtesy in permitting me to use the gist of an article entitled "How to Wash Flannels," which originally appeared in that periodical; also to the editor of the *Youth's Companion* for a similar permission with regard to an article entitled " Washing in Starch," which first appeared in the *Companion*.

I also desire to thank the ladies who helped me in making out the time standards and who so generously gave me of the fullness of their experience in answer to numerous questions.

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A GUIDE TO LAUNDRY WORK

CHAPTER I

WHAT DAY SHALL BE WASH DAY? PRELIMINARIES TO WASHING, SORTING, REMOVAL OF STAINS, ETC. TO MAKE JAVELLE WATER. DISINFECTION. DIFFERENT METHODS OF SOAKING CLOTHES, AND RECIPES FOR VARIOUS SOAKING LIQUORS

THE tradition of the Monday wash day is being vigorously challenged by the higher critics of housekeeping. It implies that the preliminary work of sorting, mending, removing stains, soaking — possibly disinfection — shall be done either on Saturday, when nobody has time for it, or on Sunday, which is unthinkable. The only other way of getting round the problem is to change the linen in midweek — and so lose the delightful sensation of Sabbath cleanliness — or to wash the clothes without any of the usual preliminaries.

The processes involved in laundry work include, ordinarily:

Sorting
Removal of stains
Disinfection (sometimes)
Soaking
Washing, including boiling, rinsing, etc.
Bluing
Starching
Drying
Ironing or mangling
Airing
Folding

These will be dealt with in the order given, after a word on the process which should precede them all — the mending.

Stockings and in general all stockinet fabrics are darned or repaired after washing. But rents, rips, and worn places in clothing of linen or cotton have a way of growing larger rather than smaller in the washtub, so that time and effort are saved by mending them before anything else is done. Yet the repairing of soiled clothing is so unattractive a task that the compromise of drawing together the edges of torn places so as to save some of the work by and by is the usual practice.

SORTING

Three divisions of the clothing and other articles should be made: (1) Things which should *not* be soaked, such as flannel goods, silk fabrics, and colored things — unless very dirty or of perfectly fast color. (2) Things which *may* be soaked, such as slightly soiled personal or household linen. (3) Things which *must* be soaked, such as all very dirty articles. During the process of sorting all the stained articles should be laid aside and the stains removed before soaking — unless this was done at the time the accident happened, which is the more excellent way.

REMOVAL OF STAINS

The following processes are recommended for white goods only, though the weaker reagents prescribed, e.g., lemon juice, borax, etc., may be used on fast colors. (See page 59.)

Blood. (1) Wash in soap and water that is barely warm, to which a few drops of turpentine have been added. (2) Saturate the stained part with kerosene oil, then dip in boiling water. (3) Make a paste of cold raw starch, apply wet, and allow to stand, then brush off.

Chocolate. (1) Stretch the stained part over a bowl and pour boiling water through it. (2) Stretch over a bowl, as

before, cover with powdered borax, and pour boiling water through it. If obstinate, soak in borax and water. (3) Rub well with pure glycerin, then wash in soft water. Do not use soap, as this will fix the stain.

Coffee. Proceed as for chocolate.

Fruit. (1) Use boiling water and common salt, the same as for chocolate (2). (2) Similarly use boiling water and salts of lemon, or boiling water and oxalic acid. If fruit stains have been allowed to dry in, they often act like true dyes and can be removed only by the use of strong chemicals injurious to the fabrics. (See Note II.)

Grass. (1) If the stain is fresh, it may be removed by ammonia water. (2) Soak the stain in alcohol and rub. (3) Wet with cold water and rub cream of tartar well in, then wash out.

Grease. (1) Rub with salt dissolved in alcohol. (2) Dissolve sal soda in four times its volume of boiling water, rub this on the stain with a brush, let stand until dry, then wash in hot soapsuds. (3) Stretch stained part over a firm pad of towelling or other absorbent goods and rub with any of the following, applied with a bit of woolen cloth: turpentine, benzine, ether, chloroform.

Ink. (1) While yet moist rub in corn meal, salt, flour, or sugar, then wash in cold water. (2) Place stained part in fresh milk and change as soon as milk is colored, until all the ink has been dissolved out. (3) Rub with freshly cut lemon or lemon juice. (4) Rub with crushed leaves of the begonia plant, then wash in soft water. (5) Use salts of lemon or oxalic acid, the same as in chocolate (2). (6) Apply Javelle water to stain, let soak a few minutes, then wash in clear water. Ink is difficult to treat, owing to its uncertain composition, so that a small bit of the stain should be experimented on first before trying to remove the whole.

Indelible Ink. (1) Scour the stained part with a mixture of sea sand and dilute sulphuric acid, further diluted with ten times its volume of water. (2) Wet the stained part,

cover with bleaching powder, then apply a saturated solution of oxalic acid.

Iron Rust. (1) Soak in Javelle water, then wash in clear water. (2) Moisten stain with ammonia, then apply salts of lemon or oxalic acid. After effervescence appears, dip in boiling water.

Machine Oil. (1) Soak in cold water, then wash out with soap. (2) Soak in cold water and borax, then wash. (3) Use the reagents prescribed for grease (3).

Meat Juice. Proceed as for blood.

Medicine. Most stains can be dissolved by soaking in alcohol, or rubbing with ether or chloroform, as in grease (3).

Mildew. (1) Wet with lemon juice and expose to strong sunlight. (2) Wet with equal parts of lemon juice and soft soap, sprinkle with salt, and stand in the sunlight. This is a fungoid growth rather than a stain, and is often impossible to remove.

Milk. (1) Wash in cold water, then in warm water and soap. (2) Rub with benzine, then wash in warm borax water.

Paint. (1) If fresh, soften with olive oil, vaseline, or lard, then wash off with benzine. (2) Boil in a strong suds until paint softens and can be peeled off. (3) Apply to stain a paste of scraped soap moistened with water, let stand until paint is soft, then it may be peeled off. (4) Use turpentine, or turpentine and ammonia in equal parts, or turpentine and alcohol, in the same manner as in grease (2). (5) Old paint should be scraped on the surface with a knife, the part oiled to soften it, and then rubbed with chloroform. Stains on delicate color or fabrics should be treated with chloroform alone.

Perspiration. (1) Immerse in soap solution and set in sunshine for several hours. (2) Use Javelle water or oxalic acid, as for iron rust. (3) For wool or silk fabrics apply benzine, the same as in grease (3).

Scorch. (1) Soft water and strong sunshine will remove a slight scorch. (2) Soak a deeper scorch in kerosene, then

wash in warm water and soap, or boil. (3) Make a paste by boiling together for ten minutes one cup of vinegar, two ounces of fuller's earth, half an ounce of white soap, shaved fine, and the juice of two onions. Spread mixture on the scorched surface and expose to strong sunshine until dry, then wash.

Shoe Stains on White Stockings. Soak in a solution of oxalic acid, then wash out in ammonia water.

Sugar Sirup. (1) Rub stained part with alcohol. (2) For colored articles use spirits of wine.

Tar. (1) Kerosene, use as for scorch (2). (2) Rub stain with benzol, proceeding as for grease (3).

Tea. (1) Saturate with glycerin, then wash in warm water. (2) For tea stains on linen, cover with common salt, moisten with lemon juice, and set in sunshine. (3) Apply any of the remedies prescribed for chocolate.

Verdigris. Coat stain with lard, let stand for a day, then wash with warm water and soap.

Vaseline. (1) Turpentine or benzine, applied as for grease (3). (2) Place two thicknesses of blotting paper beneath the stain, moisten with benzine, cover with two more thicknesses of blotting paper, and press with a warm, not hot, iron. An old and obstinate vaseline stain may need several applications. Since benzine is highly inflammable, this method should be used only in the open air, the worker should stand with back to the wind, and great care should be taken not to use excess of benzine.

Whitewash. Wash in strong vinegar.

Wine. Proceed as for fruit.

TO MAKE JAVELLE WATER

Dissolve one pound of washing soda in one quart of boiling water in an agate kettle. Dissolve one-half pound of chloride of lime in two quarts of cold water, stir until dissolved, then let settle, and pour off the clear liquid into the soda solution. Mix the two, then let settle once more, and

pour off the clear part into bottles, cork well, and keep in a dark place.

NOTE I. As stains seldom yield to the first application, the remedy should be repeated as often as necessary to insure removal.

NOTE II. Many stains, especially fruit stains, if fresh, may be removed by soaking in rain water alone. Only rain or distilled water should be used in the foregoing prescriptions, since the minerals in ordinary water often fix the stains.

NOTE III. Whenever a strong acid is used to remove a stain, it should be washed off with ammonia, and when a strong alkali is used, such as Javelle water or bleaching powder, this should be washed off with vinegar and water.

DISINFECTION

In case of serious contagious illness in the home, the sick-room linen had better be sent to the professional disinfectors or treated according to the orders of the physician. Where the disinfection has to be done at home, the greatest care should be taken to avoid spreading the disease in carrying the infected clothing through the house or allowing it to come in contact with other clothes in the laundry. A good plan is to dip a sheet in a five per cent solution of carbolic acid in water, wrap the infected clothing in this, and carry it straight to the laundry boiler, where it should be boiled for at least thirty minutes. This is one of the simplest and best methods of home disinfection, since disease germs are easily and completely destroyed by a short exposure to boiling water or steam. Most if not all of the disease germs belong to the non-spore-forming class, so that one thorough boiling is sufficient to insure their destruction.

Handkerchiefs used for a cold should be soaked in a solution of boric acid, one to two per cent in strength, or in a solution of borax of three times this strength. They may then be boiled for fifteen or twenty minutes. The danger of contagion from common colds will be lessened by using, instead of cambric handkerchiefs, those of Japanese paper, which can be burned immediately.

SOAKING

To soak or not to soak is one of the disputed questions. The object of soaking is to expose the clothes to the solvent action of water, so that some of the dirt will be dissolved out and the labor of the launderer be lessened. But sometimes the dirt gets distributed through the cleaner parts of the clothing during prolonged soaking, and a general grayishness is the result. On this account many housewives soak their clothes for only an hour or two, even half an hour.

Division of Clothes for Soaking. Ideal conditions prescribe the soaking of table linen, slightly soiled towels, etc., in one tub, body linen and bed linen in another, and the more soiled articles of all kinds in a third. If only two tubs are available, the soiled articles can be soaked in one tub and the very dirty ones in another, the process being omitted for table linen, since fastidious housekeepers object to mingling this with body linen in the early stages of laundry work.

The most soiled pieces of each class should be put at the bottom of the tub, so that the dirt from them may not filter down on the cleaner articles.

Heavily starched pieces should be soaked by themselves.

Soaking Liquids. Rain water (or distilled) is the best to use; next to this, good soft water of any kind; but it is questionable whether clothes are benefited by prolonged soaking in hard water, since the minerals it contains are often precipitated in the fabric and the dirt made less soluble. If rain water is at hand, no other detergent need be used during soaking, except for very dirty articles. Where other than rain water is used, stronger detergents are frequently added; these will now be briefly discussed.

Water and Soap. Soap solution is sometimes added to the soaking water, or soap is rubbed on the more soiled

parts. It is apt to yellow the clothes, unless they can be bleached in fresh air and plenty of sunshine.

Water and Washing Soda. Affects clothes the same as soap.

Water and Borax. This loosens dirt, whitens clothes, and is a mild germicide. Stains, with the exception of ink stains, need not be removed previously to soaking the clothes if borax is used in the soaking water.

Water and Javelle Water. This whitens clothes, but deteriorates the fabric.

Water and Lessive. Lessive or lessive water is an infusion of wood ashes in boiling water, which is afterwards filtered. The potash salts collected from lessive water are also sold in cakes or powder. This, if used in the soaking water, will bleach linen beautifully white; but the process if continued is destructive to fine linens, since the potash salts are very strong.

Water and Soaking Liquor. A good soaking liquor may be made by dissolving a pound of soap in three gallons of water and stirring into the mixture one to two tablespoonfuls of turpentine and two to three tablespoonfuls of ammonia. The turpentine counteracts the yellowing effect of the soap. Enough of the mixture should be added to the soaking tubs to make a mild suds, and for very dirty clothes it may be used undiluted.

Water and Washing Fluid. If the clothing is very dirty, one-half cupful of the following washing fluid may be added to each tub of soaking water:

One ounce of muriate of ammonia (ammonium chloride)
One ounce of salts of tartar (potassium carbonate)
One can of Babbitt's potash
Put all into a jar, pour on two quarts of boiling water, being careful to avoid the fumes, bottle when cool, and keep tightly corked and away from the light.

This fluid is a potent dirt remover, but will disintegrate, more or less, the fibers of clothing. It should be used with

discretion. Since a great many stains are removed by its use, only ink spots, fruit stains, and those of tea and coffee need to be treated with other reagents before soaking.

NOTE. The proportion of the above-mentioned detergents to be used to one tub — about twelve gallons — of soaking water is usually about two tablespoonfuls for soda, borax, Javelle water, or lessive, and enough to make a mild suds of the soap solution.

Time of Soaking. This depends, to some extent, on the temperature of the soaking water. Warm water is better than cold to soften the dirt, but if the warm water is allowed to get cold during the period of soaking, the fibers of the cloth, which have first expanded, will contract, thus holding and entangling the dirt. Hence the time for soaking may be roughly tabled:

Overnight, when cold water is used
Two to three hours, if the water is tepid, or 90°–95° F.
One-half hour, if the water is pleasantly warm to the hands, or 112°–115° F.

CHAPTER II

THE WHITE WASH. BED AND TABLE LINEN, BODY LINEN, UNION SUITS, AND WHITE HOSIERY. DISCUSSION OF BOILING CLOTHES, SPECIAL METHODS USED IN BOILING. RINSING, BLEACHING, BLUING, STARCHING. RECIPES FOR STARCH FOR VARIOUS CLASSES OF ARTICLES. DRYING CLOTHES. RULES FOR HANGING

WASHING

AFTER the stains have been removed and the linen soaked it is then ready for washing. The procedure to be discussed in this chapter applies to the ordinary white wash only—special methods for other things will be given later.

The most soiled parts of the clothes and the very dirty articles may be given a preliminary rubbing in the soaking water, to which enough hot water has been added to make it pleasantly warm to the hands, as well as to increase its solvent action. The heavily starched things, which are seldom very dirty, should have the starch thoroughly rubbed out in the soaking water.

The pieces should then be wrung, the body linen, union suits, etc., turned inside out — unless they are soiled enough to need two washings, when the turning should be done after the first — the tub drained and wiped, and fresh warm water run into it for the washing process. Very hot water need not be used; it is hard on the hands and at this stage of the washing would often set the dirt. Hard water must be softened, preferably by ammonia or borax, for soda tends to yellow the clothing. Two tablespoonfuls of ammonia or two (level) tablespoonfuls of borax to a small tub (four to six gallons) of water is the amount usually prescribed; but

since the proportion to be used depends on the degree of hardness of the water, a really safer rule, in this case, for the intelligent worker is the despised " rule of thumb," that is, the softening agent should be added gradually until the hardness is " broken " and the water feels " slippery." After the water is softened, enough soap solution — previously prepared by shaving and dissolving a cake of soap in two quarts of hot water — should be added to make a good suds when the hand is swished to and fro through the water. To add soap in this way will save the labor of rubbing it on each garment and will cause it thoroughly to penetrate, sweeten, and cleanse the articles to be washed.

The clothes may now be washed in the following order:

Table linen and towels
Bed linen
Union suits, when not of wool or merino, and white stockings
All extra soiled articles

Table Linen and Towels. Each piece should be loosely gathered up or folded along the warp threads to a convenient width for rubbing, and in this way should be very lightly applied to the rubbing surface, with only force enough to push the warm soapy water through the meshes of the fabric and free them from dirt. Begin at one end of the piece and keep drawing up each portion, after rubbing it, until the other end is reached, then turn over and work from this end to the first. Seams, hems, and edges, and the middle of towels should be given special attention, and obstinate spots which refuse to yield to gentler methods should be freshly soaped and rubbed with a moderate degree of vigor. A continuous rub-rub-rub motion, continued until the part is nearly dry, should never be employed, for this forces the dirt into the meshes of the weave, besides being destructive to the fabric. Each application of the cloth to the rubbing surface should be alternated with a dip or a swish in the wash water. Gentle rubbing

against *well-rounded* rather than angular corrugations is not hurtful to clothing, provided that plenty of water is used at each rub, and the work is done in such a way as to drive the water through the fabric. A soft brush is sometimes used for rubbing out obstinate spots or for washing corsets or garments of jean or other thick material.

As each piece is cleansed, lay it in long folds of even thickness and wring the soapy water out. In hand wringing the articles should be twisted along the warp threads, for these are the strongest; but hand wringing, at best, is destructive. Roller wringing is easier, more effective, and saves wear and tear. The rollers should be adjusted to the thickness of the folds to be put through them, buttons and tapes should be folded inside, and raised embroidery or monograms should also be folded inside, so that several thicknesses of cloth may come between them and the wringer and thus protect them from being flattened.

Bed Linen. Table linen that has not been much soiled will leave the water clean enough for the next division of the clothes, the bed linen. Some fresh hot water should be added to the tub, with a proportionate amount of the softening agent and of soap solution. The bed linen is washed, rubbed, and wrung out in the same way as table linen. The middle of pillow slips and sheets and the part of the upper sheet that is folded over the blanket will be likely to be the most soiled, but attention should be given, as before, to seams, hems, and edges. In putting through the wringer, the closed end of pillow slips should be inserted first, to avoid the strain on this part of forcing through it the air and water that often distend it when the loose or open end goes through the rollers first.

Body Linen. A tub of fresh warm water with softener and soap solution, as before, should now be prepared for the body linen. This is washed and rubbed like the other articles, with particular attention to seams, hems, and edges, as before; also to neck and sleeve bands, parts that come under the arms, and fronts of wrappers, sacks, skirts,

aprons, waists, etc. Fold in buttons or hooks before putting through the wringer and insert first such plaited or gathered parts as may be found at neck or waist bands, then wring slowly and carefully.

Body linen that is more than slightly soiled should, after the first washing, be turned inside out and washed a second time in clean suds.

Union Suits, White Hosiery. The water from the second washing of the body linen should be clean enough for the union suits. These are very easy to wash. Look for soiled parts at neck, wrists, ankles, and under the arms. The knees of children's stockings, the insteps of the wearers of low shoes, and the soles of everybody's will be the parts to need special attention. Stockings should be carefully wrung to prevent twisting or stretching. Fold by the seam in the back and along the middle of the sole, then double twice lengthwise and pass through wringer.

All Extra Soiled Articles. The very much soiled articles of all kinds should first be thoroughly manipulated in the soaking water, so as to leave in this as much of the dirt as possible. They will then probably need to be washed twice, using plenty of fresh, soft, soapy water, and soaping and rubbing the obstinate spots. After this they should be boiled.

BOILING

Clothes can be perfectly cleansed without boiling, so that this process may be omitted, if desired, from the routine of wash day. Indeed the manufacturers of certain soaps, notably the naphtha, discountenance boiling, saying that at this temperature the action of the soap ceases. Nevertheless, where fresh country air and plenty of sunshine are not available for drying, to boil the clothes will cleanse, sweeten, and purify them to a greater degree than merely washing in the tub. The very dirty clothes had better be boiled at every washing, the cleaner ones once in three or four weeks.

When clothes are put into a boiler of cool, soft water, mixed with finely shaved or scraped soap, and are then allowed to come slowly to a boil, the cleansing action seems to be greater than when they are introduced at once into boiling water. Finely shaved soap too, which will gradually dissolve as the water comes to a boil, seems more potent in its effect than a soap solution, which will immediately dissolve. There are many theories regarding the complex action involved in the effect of soap on soiled clothing. In this chapter we will not attempt an explanation of this difference in its action, but that it exists has long been recognized in the practical work of experienced and observant housekeepers. Therefore for the most effective cleansing the water should be cool, the soap shredded into it, and the clothes — protected by being placed loosely in a bag of white twine netting or coarse, thin muslin — put into the boiler and slowly heated to the boiling point. They should not be allowed to boil for more than ten minutes, for prolonged boiling causes yellowing and should not be made use of except when necessary for disinfection.

Even when the clothes are placed directly in the boiling liquid, a slight cleansing action, probably due to the mechanical bubbling of the hot, soapy water through the meshes of the fabric, may be observed; but whether the water is cold or hot at the beginning, boiling should not be depended upon to do much of the work of cleansing, and the clothes, before going into the boiler, should be well washed in the tubs.

SPECIAL METHODS USED IN BOILING

The Kerosene Process. This method of washing, when carried out with the utmost possible care, is greatly favored by many who have practiced it. A solution is prepared of one-half cake of mild soap shredded into one pint of water and dissolved over the fire. To this is added two tablespoonfuls of pure kerosene oil, and the mixture is stirred into ten

gallons of already boiling water. The *dry*, dirty clothes are immediately put into this, the cleanest things first, but without any previous soaking or washing, and they are boiled *hard*, and kept well stirred with a wooden stick, for twenty minutes. They are then dipped out into a tub of lukewarm water, rubbed slightly, looked over for obstinate spots, then thoroughly rinsed in at least two warm waters. Clothes are whitened by this method of washing, and many stains, notably those of a greasy or oily nature, as well as stains from soot, lampblack, or carbon in any form, will be removed without any other treatment.

Note particularly:

The clothes are not put into a bag, for this would interfere with the thorough stirring which is an essential part of the process.

Only pure kerosene oil, which volatilizes readily, should be used. The adulterations of kerosene oil are apt to be of a non-volatile nature. Pure oil can be tested by noting whether a drop will evaporate from a sheet of white writing paper.

Only rain water, or a natural soft water, should be used, else the oil will combine with the minerals present and form a greasy scum, which will cling to the sides of the boiler, or worse — settle in the clothes and be very hard to wash out.

A soap with much free alkali seems to combine with the oil in such a way that the odor of kerosene does not so readily evaporate.

Care must be taken that the water does not overflow in boiling, lest the oil catch fire.

Open-air drying is advisable, though, if the other precautions are carried out, it is not necessary.

Lemon Juice. Another method used in boiling clothes is to add to every ten gallons of water in the boiler the juice of one or two lemons. This will whiten the clothes beautifully, seeming to overcome the grayness produced by hard water or the yellowing due to other causes. One table-

spoonful of spirits of turpentine will have the same effect, but this should be used only with rain water or a naturally soft water, otherwise the odor is apt to cling.

RINSING

Too much cannot be said about the importance of thorough rinsing. Hard water should be softened with borax or ammonia, and the clothes, after wringing, thoroughly soused and stirred and manipulated in this in the order in which they were washed. When the rinsing water becomes grayish, it should be drained off and pure fresh water poured in. Ideal conditions call for two rinsings before the bluing water, one in warm water, one in cool or lukewarm; but if the clothes have not been boiled and have been well wrung from the washtub, one rinsing should be sufficient, provided that plenty of water is used in this and that only a few pieces are put in at a time. If the clothes have been boiled, they should first be dipped out into a tub of warm water — cold would precipitate the soap in the meshes and make it harder to rinse out — washed free from the boiler water in this, then wrung out and rinsed. If wrung directly from the boiler, the heat would injure the rubber rollers of the wringer.

Unless the clothes are entirely freed from soap by thorough rinsing, they will dry dingy and grayish, or become streaked in the bluing water, or the process of bluing may produce rust spots (the reason for this will be explained later), or they may turn yellow after starching. Only thorough rinsing, after good washing, will produce the spotlessly, brilliantly white clothing that should be the result of good laundry work.

BLEACHING

When clothes have turned yellow or grayish, and this tint persists after washing, they should be bleached before

bluing. One-quarter cup of borax dissolved in a cup of boiling water and added to one gallon of cold water makes a mild bleaching fluid. Discolored clothes may be allowed to stand in this from half an hour to three or four hours; if this is not enough, they should be dipped out of the liquid without much wringing and spread out to dry, preferably on the grass. Where the discoloration is obstinate, the clothes may need to be repeatedly wet with the borax solution and kept out of doors for several days. A quicker method of bleaching, and one that is effective when sunlight and fresh air are not available, is to soak the clothes for half an hour in a mixture of one part of Javelle water to two of hot, soft water. Javelle water is destructive to the fabric, so this should be used only in extreme cases. A little ammonia in the rinsing water will remove the limey odor, and the rinsing can hardly be overdone, for any trace of this strong detergent left in the clothes will rot linen or cotton fabrics.

BLUING

Bluing is needed only to counteract the yellow tint that results from much wear and much washing. Country washed linen, with soft water and sun bleaching, ought not to require bluing; neither should the newer and less worn articles.

A clean tub should be partly filled with cool, soft water for the bluing. Hard water will cause discoloration. Only experience can guide the worker as to the depth of tint required; this varies with the fabric and the weave, linen being a better absorbent than cotton, and loose weaves taking up more color than close, fine weaves. In some of the commercial laundries a linen collar is dipped into the bluing water and, without wringing, held against the light as a test. If the color is a pure sky-blue, the water is right; if lighter more bluing, and if darker less, will be needed. A good working rule is to add sufficient bluing to yield a faint but decided blue tint when a little of the water is taken up

in the hollow of the palm. The water should be kept well stirred, for many of the bluings are quickly precipitated; and it should be used quickly, for the coloring matter in some of the bluings will alter if allowed to stand in solution for many hours.

The heavier articles, or those most discolored, should be dipped first, one piece at a time — clothes will be streaked if they lie in the bluing water. After wringing they should be at once shaken and as quickly as possible hung to dry. The blue tint in the water weakens by use and has to be strengthened after every six or eight pieces have been wrung out.

Body linen usually requires the most bluing, table linen the least — unless this has been in constant use.

STARCHING

Starch is used to counteract the limpness that results from many washings, or to improve the texture of the fabric when ironed, or to stiffen, or to preserve articles from stain — for the starch will form a thin coating round each fiber, which will absorb stain and be readily washed out.

In some of the very fine French laundries *all* the clothing — including bed and table linen — is starched, but so slightly that it would never be suspected. Four tablespoonfuls of starch are blended in about twice as much cold water, the mixture is stirred while a quart of boiling water is poured on it, and then boiled directly over the fire for ten minutes. This is added to the bluing water, or to the last rinsing water if the clothes are not blued, the amount given being the right proportion for eight quarts of bluing water. This small amount of starch will not stiffen, but if used for the so-called unstarched pieces will produce a smooth, beautiful finish under the iron. The texture of fine handkerchiefs will appear still finer, while muslin undergarments, sheets, and pillow slips will have, after ironing, the cool, refreshing smoothness of linen — delightful for summer use.

An extra touch of daintiness may be given by pouring the hot starch over a generous handful of lavender spikes, and then straining it off, or adding a few drops of oil of lavender before mixing it with the rinsing water.

Recipes for starch for various classes of articles follow. The proportions given are suitable for the ordinary laundry starch prepared from maize. (See page 93.)

1. **Very Thin Starch.** One-half tablespoonful of starch, one tablespoonful of cold water, one quart of boiling water. Boil fifteen minutes.

This may be used for thin, worn table linen, to give it the crisp firmness of new goods, as well as to preserve it from stains. It is also used for prints, muslins, laces, and all articles which require only a suspicion of stiffening. This starch may be mixed with the bluing water.

2. **Thin Starch.** One tablespoonful of starch, two tablespoonfuls of water, one-half teaspoonful of borax, one-half teaspoonful of lard or paraffin wax, one quart of boiling water. Mix in order given, boil fifteen minutes.

This may be used for the ends of pillow slips, the upper hems of sheets, the ends of drawers, the yokes, tucked fronts, wristbands or cuffs, yokes or back plaits of nightgowns; for white underskirts from five inches below the waistband to the hem; and for corset covers; sometimes for the whole of combination garments and for blouses, wrappers, dresses, etc., where only a little stiffening is desired.

Where the whole of a garment is to be starched, the starch may be mixed with a little bluing; otherwise the part to be stiffened is dipped into the hot starch, after bluing, and the starch is worked into the cloth with the hands, then wrung and dried.

3. **Medium Starch.** Two to three tablespoonfuls of starch, one-quarter cup of water, one teaspoonful of borax, one teaspoonful of lard or wax, one quart of boiling water. Mix in order given, boil twenty minutes. A mere trace of bluing may be added to the starch after it is made, or for whole garments it may be mixed with blued water.

This may be used for tailored shirtwaists, duck or linen skirts, and all garments which are liked moderately stiff.

4. **Stiff Starch.** One-quarter cup of starch, one-half cup of water, one-half tablespoonful of borax, one teaspoonful of lard or wax, one quart of boiling water. Mix in order given, boil from twenty to thirty minutes.

This may be used for shirt bosoms, cuffs and collars, for the collars and cuffs of shirtwaists, for curtains and other draperies of coarse lace, also for brassières made of net. Coarsely woven fabrics need a stiffer starch than those of fine, close weave to produce the same degree of stiffness.

5. **Very Stiff Starch.** One-half cup of starch, one-half cup of water, one-half to one tablespoonful of borax, one teaspoonful of lard or wax, one quart of boiling water. Mix as before, boil one-half hour.

This may be used for the final starching of shirt bosoms, collars, and cuffs. A trace of bluing may be added, but only if wheat starch is used. This will be discussed more fully later. See pages 66 and 94.

6. **Raw Starch, Sometimes Called Cold Starch.** Four tablespoonfuls of starch are used to a quart of water, the whole blended quite smooth, and stirred before use. This is used either to stiffen thin goods, where cooked starch has not been employed, or to dampen stiff-starched articles in order to stiffen them still more. Pieces to be raw starched must be dry, rolled tightly after starching, and ironed while damp.

It must be remembered that raw starch has no stiffening power, and that in this method of stiffening the starch has to be cooked under the hot iron. Raw starch is difficult for an inexperienced launderer to use, it is so apt to stick to the iron and burn. It is sometimes recommended to blend the starch with half the quantity of cold water and to add the remainder boiling. This will cause some of the grains to burst, and the starch will not be so apt to stick to the iron. Where raw starch alone is used to stiffen, it is apt to absorb moisture, and the garments will become limp.

NOTES

The garments needing to be stiffest should be starched first, since the starch is likely to be thinned by the moisture from the clothes.

The drier the garment, the hotter the starch, the more quickly the fabric dries after starching, and the more thoroughly it is dried under a hot iron the stiffer will be the result.

The longer starch is boiled the less likely it is either to stick to the iron or to absorb moisture.

Borax in starch will whiten it, give a more permanent stiffness, cause it to penetrate the fibers better, and will give greater smoothness in ironing.

Wax, paraffin, or lard will prevent the starch from sticking to the iron, will give a fine gloss, and will aid in preserving the stiffness by preventing the absorption of moisture by the starch. Kerosene, turpentine, or even butter are sometimes substituted, but the first two are best avoided on account of the possible clinging of the odor, while butter, being decomposed at a comparatively low temperature, may cause discoloration during the ironing.

Alum added to starch in the proportion of one teaspoonful to one tablespoonful for every quart of water used will whiten the starch and will thin the mixture while not decreasing its stiffening property — a useful modification, since the starch on this account will penetrate the fabric more readily.

DRYING

In this chapter only outdoor drying will be discussed. Clothes are best hung out in the evening in all but winter weather, for the more slowly they dry the better they will be bleached. This is an argument for doing the washing in the afternoon instead of in the morning. If the clothes are not put out in the evening, they should at least be left

out for a night. Grass bleaching and the whitening effect of frost are said to be due merely to the retarding of the drying in both cases. Freezing, however, strains the cloth from expansion of water in the fibers.

Things of a kind should be hung together on the lines, the clothespins not inserted too vigorously, lines and pins perfectly clean. It is well to use a long strip of linen to put between the pins and the clothes in fastening them to the line; it saves wear, and possible stain from the pins.

Everything should be hung wrong side out, and things of a kind should be hung together. Properly hung clothes are easier to iron, and an orderly and symmetrical arrangement of clothes on the line is the mark of a good laundress.

Never hang in a high wind. Clothes become twisted out of shape, and starched things lose their stiffness from the friction — just as they will lose it from rubbing between the hands while drying.

RULES FOR HANGING

Aprons. Hang by the band or double part, so that the water will drain away from the gathers; or by one of the long sides.

Blouses. Hang by the shoulders, so that the sleeves will hang in a natural position, to prevent tearing under the arm.

Chemises. Hang with the upper part turned one-third over the line to avoid strain from hanging at full length. If there are no gathers at top, hang with the bottom hem turned from six inches to one foot over the line.

Collars and Cuffs. Run a clean cotton string through the buttonholes and fasten the ends of this to the line. Keep collars and cuffs separate, pairs of the latter together, and all hung in the same direction.

Combination Garments. Hang same as chemises.

Corset Covers. Hang reversed, with the armholes down.

Drawers. Hang from the band or with the band turned a few inches over the line.

Dresses. Hang from shoulders, if heavy from waist, in this case fastening the ends of the sleeves to the line to prevent tearing.

Handkerchiefs. Hang with the border over the line, protect from the pins with a strip of linen or muslin, catch them only very lightly.

Napkins. One-fourth over the line, the pins inserted a little way from the edge.

Nightgowns. Hang from the shoulders or with the yoke turned over the line. If without gathers, from such a point as will admit of the fastening of the sleeves, same as in dresses.

Pillow Slips. Hang a few inches of the closed part over the line; if hung from hems, will be apt to be pulled out of shape or have starch rubbed out by pins.

Sheets. Double the sheets, hems together, wrong side out. Insert pins about five inches from the corners. Tablecloths, sheets, and large pieces should have pins inserted at four or five places to avoid warping of the threads from sagging.

Shirts. Hang by yoke or shoulders.

Skirts. Hang from waist or turned a few inches over line.

Stockings. Hang by heel, keep pairs together, turn all in the same direction.

Tablecloths. Hang same as sheets.

Towels. Hang one-third over the line.

Union Suits. Hang from shoulders or with shoulders turned over the line.

Waists. Hang from shoulders.

NOTE. The method of hanging the heavier pieces should be changed from time to time to avoid strain on the same parts.

CHAPTER III

SPRINKLING. STRETCHING SHEETS, TABLECLOTHS, ETC. PRESSING, MANGLING, IRONING AND FOLDING OF BED AND TABLE LINEN. DIAGRAMS OF FOLDING

As each piece is removed from the line it should be shaken to get rid of possible insects, etc.; body linen turned right side out, then loosely folded and piled up ready for sprinkling.

SPRINKLING

All articles to be pressed should be more or less damp to facilitate the smoothing out of creases. Some launderers advocate taking the flat pieces — which dry more evenly —from the line while they are yet damp; but this practice, if persisted in, seems to cause discoloration if hot irons are used for pressing. Hence the dry clothes are usually sprinkled with clean water, rolled up tightly, and allowed to stand for one or two hours to become evenly moist. They are sometimes left sprinkled and rolled overnight, but always at the risk of mildew, especially in warm weather.

A bowl of water and a small, clean whisk broom are often as efficient for sprinkling as the more costly appliances of rubber or zinc sold by the laundry supply stores. Hot water is sometimes recommended as being more apt to penetrate the fabric quickly, but as the drops are likely to become cool before they alight on the clothes no very great advantage is obvious from its use.

Bed linen, towels, and body linen need to be only slightly sprinkled, just enough to be easily ironed. Table linen and heavily starched pieces should be made thoroughly and evenly damp, but with no excess of moisture. The damper

the linen the better gloss it will assume under the iron, and the more rapidly the dampness evaporates during ironing the more daintily crisp the article will be. Hence in superfine laundry work one-fourth its volume of alcohol is sometimes added to the water for sprinkling fine, satin-finished damask table linen. This is not necessary where the trace of starch, recommended in a preceding chapter, is used.

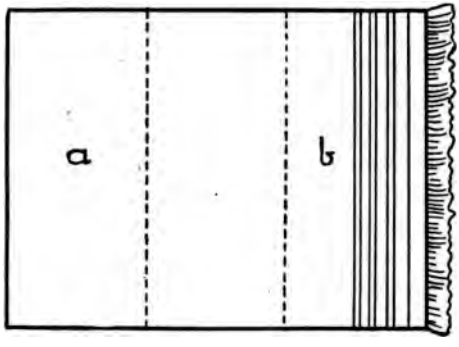

FIG. 1

Towels. Sprinkle lightly all over, fold once lengthwise, right side out, and roll up ready for ironing.

Pillow Slips. Lay flat on table with the open or starched end to the right. Sprinkle this part (*b*, Fig. 1), then fold over to left along dotted line. Sprinkle very lightly the reverse side of *b*, then fold *a* over *b* and roll up.

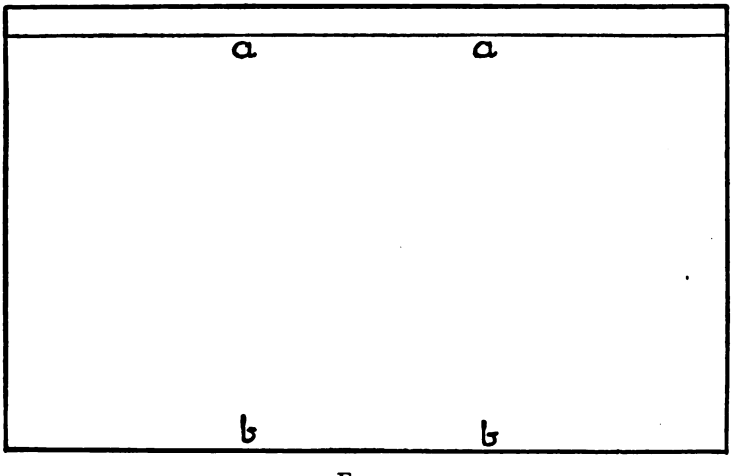

FIG. 2

Sheets. If the sheets have been hung as directed, wrong side out with the hems together, prepare for sprinkling by turning back the upper hem (*aa*, Fig. 2) to center fold, *bb*, so that hem comes right side out. Turn back the bottom hem in the same way. If the sheets are to be ironed by method 1 (see Ironing, *Sheets*), sprinkle only the right-hand section (*b*, Fig. 3) of this long, folded strip, then fold *a* over *b* at dotted line, and roll up tightly, with firm pressure

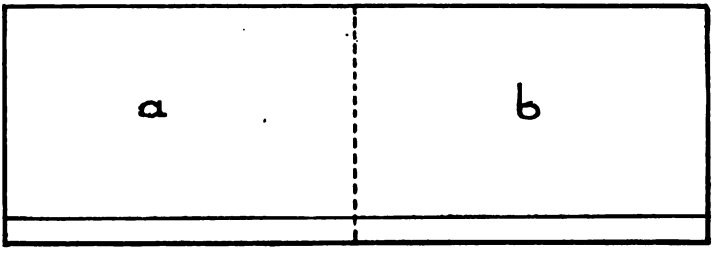

FIG. 3

of the hand during rolling. If the sheets are to be mangled or ironed all over, the whole surface of the folded strip should be lightly sprinkled, then each fold should be raised and sprinkled inside, finally the under surface should be dampened and the sheet rolled as already directed.

Napkins. Dip a single napkin in clean water, put through wringer, lay flat on table, and place smoothly over it two dry napkins. Alternate in this way wet and dry napkins, until the pile is a convenient size to roll. Note that the pile should begin with a wet and finish with a dry napkin.

Tablecloths. Fold, sprinkle all over, and roll as directed for sheets. Heavy table linen, as already stated, needs to be thoroughly dampened.

Flat Pieces of Very Fine Material are sometimes not sprinkled. A cloth well wrung out of clean water is stretched smoothly on the ironing table, a piece of dry muslin is laid over it, the fine article placed on this, covered with another piece of dry muslin, and ironed through this with a moderately hot iron.

Handkerchiefs. Proceed as for napkins, but lay alternately one wet and one dry instead of one wet and two dry.

Aprons. Dampen particularly the bands, hems, pockets, and the ruffles or trimming of fancy aprons. Fold twice lengthwise and roll.

Corset Covers. Thin corset covers with few gathers may be dipped into water and treated like handkerchiefs, or a single fine corset cover may be wetted, put through the wringer, then laid inside a couple of folds of old muslin, wrung again through rather tight rollers, and ironed at once.

Nightgowns, Chemises, Drawers, Combination Garments, Skirts. These should have the thicker or doubled parts, such as yokes, hems, tucks, waistbands, wristbands, collars, etc., sprinkled very thoroughly, and the body of the garment only lightly dampened. Fold lengthwise, with the sleeves and trimmed parts laid inside and all creases smoothed out as far as possible.

Stockings should not be sprinkled, but pulled into shape when nearly dry.

After sprinkling, things of a kind should be grouped together, the flat pieces — or those to be ironed first — laid on top, and the whole covered with a damp cloth.

In general, each article should be folded after sprinkling in the shape most convenient for ironing. Exception: large pieces which have to be stretched.

STRETCHING

Sheets, tablecloths, and large, flat pieces ought to be stretched before ironing, if they are to be ironed all over. The stretching is best done by two persons, each holding the piece by opposite corners and pulling gently along the warp threads, first at the selvages, then gathering up a few inches in each hand, stretching again, and so working to the center until both hems, or ends, are exactly even when brought together. The pieces are then doubled once lengthwise, selvages even, the long strip so formed is folded

backwards and forwards in screen folds of not more than one foot in depth, and the ironing is done as soon as possible.

If large pieces must be stretched by one person, the selvages alone may be pulled out, a little at a time, between the fingers, for this part is the most apt to shrink and cause puckering while drying.

Some launderers stretch the clothes immediately after sprinkling, but it is more effectively done just before ironing, since they will then better retain their shape.

Napkins and other small articles are merely stretched smooth on the ironing table.

NOTE. Vegetable fibers, particularly linen, contract when wet, and this causes shrinkage, unless they are thoroughly stretched before drying.

PRESSING

Pieces which Should not be Pressed. Blankets, bath sheets, Turkish towels, rough towels which are to be used for friction, and articles with raised surfaces, such as some bath mats, honeycomb counterpanes, etc., should not be pressed. They should be well shaken, pulled straight by the warp threads, and laid in soft folds. Crêpe underwear, waists, etc., need to have only the trimming pressed, but they should be carefully pulled into shape, for garments of this fabric are apt to shrink unevenly.

Pieces which Need not be Pressed. Stockinet underwear, flannels, knitted shawls or sweaters, etc., are preferred by many persons without pressing other than that given — after pulling into shape and folding — by piling in an even thickness and placing under a weighted board for several hours. Pressing is often omitted for such articles as dish towels, dusters, and other cleaning cloths. Flannelette garments will lose their fluffiness if ironed, so these are often pulled into shape and carefully folded.

Cotton fabrics, when hung out of doors in a fresh breeze, have the property of generating ozone from the oxygen of

the air, and since the indescribably clean, sweet odor of such clothing is lost during ironing, some persons prefer that underwear to be worn next the skin shall on this account be folded and put away as soon as it is taken from the line.

MANGLING

Cold-Roll Mangling. This method of pressing may be very satisfactorily used for flat, unstarched pieces such as sheets, plain pillow slips, and towels; also for Balbriggan-woven underwear, flannels and flannelettes, and other things which either do not need or ought not to have a high degree of smoothness. Slightly starched table linen that is in common use is sometimes pressed in this way.

Articles to be put through the cold-roll mangle may be taken from the line while they are damp and pressed without as much danger of yellowing as if heat were employed. (See Sprinkling, first paragraph, page 34.) The rolls should be adjusted, as in a wringer, according to the thickness of the article to go through. Large pieces must be folded to fit, and pressed in the direction of the warp threads. Great care must be taken to avoid creases and to keep hems and selvages perfectly even. Heavy linen, to take the pressure, must be quite damp, fine linen less so, and the pieces after mangling should be hung in a current of air, lest mildew develop.

Hot-Roll Mangling. This is sometimes called *calendering* or *laundry calendering* to distinguish it from the process employed to finish newly manufactured textiles when wavy lines and other patterns are stamped in.

All plain, flat pieces can be pressed in this way, whether starched or not — even plain underwear and aprons, plain gored skirts, etc. Tablecloths and napkins can be finished with a beautiful gloss and done in less than one-tenth the time needed for hand ironing. The chief objection to this method of pressing for table linen, etc., is the difficulty of

keeping the ends and edges square and true. Raised embroidery or monograms should not be put through the mangle.

IRONING AND FOLDING

Some launderers advise passing all the flat pieces through a cold-roll mangle before ironing, saying that this practice is really timesaving as well as productive of better results. It is, however, not necessary and is seldom done by the housewife. Comparatively few home laundries are equipped with a mangle, and the pressing is usually done by hand ironing.

Towels. Iron lengthwise on both sides of the fold made for sprinkling, creasing in the fold, and keeping ends and selvages even. Then open the fold and run the iron lightly over the inside, so that the towel may be smooth on both sides. Fold crosswise once or twice without creasing.

Pillow slips. Lay flat on ironing table, with the open end to the right, and iron the hem, first on the right side until the edge is straight, then lightly on the wrong side to dry it. Next iron the body of the slip, keeping edges and corners even and true and using sufficient pressure to make a smooth, glossy surface for the cheek to rest on. The general rule in ironing is to press in the direction of the warp threads, the more easily to secure straightness and smoothness; but in ironing a pillow slip the hemmed or opened end may be said to correspond to the selvage, and the result is better if the iron is moved parallel with this. Where the case is not made of tubing, the ironing of the body of the slip should be begun at the juncture of the side and end seams, and these should be drawn straight and true at the corner to avoid creases.

Plain pillow slips may have one lengthwise fold pressed in under the iron, then one or two crosswise folds laid without creasing. Monogrammed slips are creased lengthwise in thirds, then folded once or twice across, with the monogram uppermost. Ruffled or lace-edged slips are creased in thirds crosswise, the trimmed section uppermost.

Sheets. Heavy irons, six to eight or even ten pounds in weight, are recommended for sheets, tablecloths, and large plain pieces where the iron can be passed swiftly and continuously over a wide extent of surface without lifting. (See page 45, also Chapter XII, page 102.)

Method 1. Part-ironed sheets. Some busy housekeepers iron only the part of the sheet which is folded over the covers of the bed. This corresponds with the sections marked *ab* of the long folded strip illustrated in Fig. 3. This is laid lengthwise of the ironing table, the hot iron is first run along the deep hem, over both right and wrong sides should it be very damp, then the whole section is quickly smoothed, crosswise of the warp, as in pillow slips. The folded strip is doubled twice lengthwise — the ironed side out — for final putting away.

Method 2. Whole-ironed sheets. Lay the sheet, already in screen folds, along the edge of the ironing table nearest the worker, with the deep hem uppermost and the selvages to the right. Lift up from the folds and spread out towards the opposite edge of the table as much at a time as can be conveniently pressed. Iron first the hem as in pillow slips, then the selvages, drawing them straight, then the body of the sheet with long, even strokes in the direction of the warp threads. As each part is pressed it is laid lightly in screen folds, or rolled, along the farther edge of the table, and when the whole of one lengthwise half is ironed, the sheet is turned over, selvages again to the right, and the process is repeated on the other side; or instead of turning, the sheet may be folded again lengthwise on the table, the center crease brought even with the selvages, and this narrow upper surface ironed, the strip then doubled across the middle, the new surface ironed, and so on.

NOTE. In doubling any flat piece that has already been folded once the edges should not be brought together as before, but the upper half should be drawn back from one-fourth to one-half an inch or more — according to the thickness of the folds — from the edge; otherwise it will be pushed out of place during pressing.

Napkins. Method 1. Fold the napkin once lengthwise, right side out and selvages together, and iron same as towels, using enough pressure on the right side to give gloss. Be careful to iron the hems dry, first on one side, then on the other. This is the easiest way to iron napkins.

Method 2. Lay the napkin square and smooth on the ironing table, right side up. Run the iron first along the hems, then iron in the direction of the warp threads, keeping selvages straight and corners true. As soon as the right side is well glossed turn the wrong side up and press it smooth, then finish on the right side, polishing with iron until the satin texture of the damask is brought out. This method finishes the napkin with a more even gloss on the right side, since the part that is ironed *first*, while the linen is damp, will take the better polish.

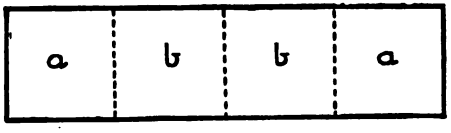

FIG. 4

To Fold. (1) Lay selvages together and iron crease in center, bring this fold over to the selvages and crease again, then double this strip twice, pressing in the creases firmly with the iron. (See note after *Sheets*.)

(2) Fold in thirds lengthwise, but backwards and forwards like a screen, pressing the folds well in. Fold this strip again in three screen folds, creasing with iron.

(3) Fold twice lengthwise as in (1). Fold sections *aa* (Fig. 4) over *bb* towards the center, along dotted lines, then double the strip so formed with sections *aa* turned inside. This method is not suitable for a monogrammed napkin, but one folded in this way is easily and unobtrusively opened to its center fold on the lap of the user.

NOTE. The fewer folds made in a napkin the better, both to save wear — for heavy damask will "cut" at the folds — and to accord with good usage. The final folding, however, should bring the napkin to not more than a seven-inch square.

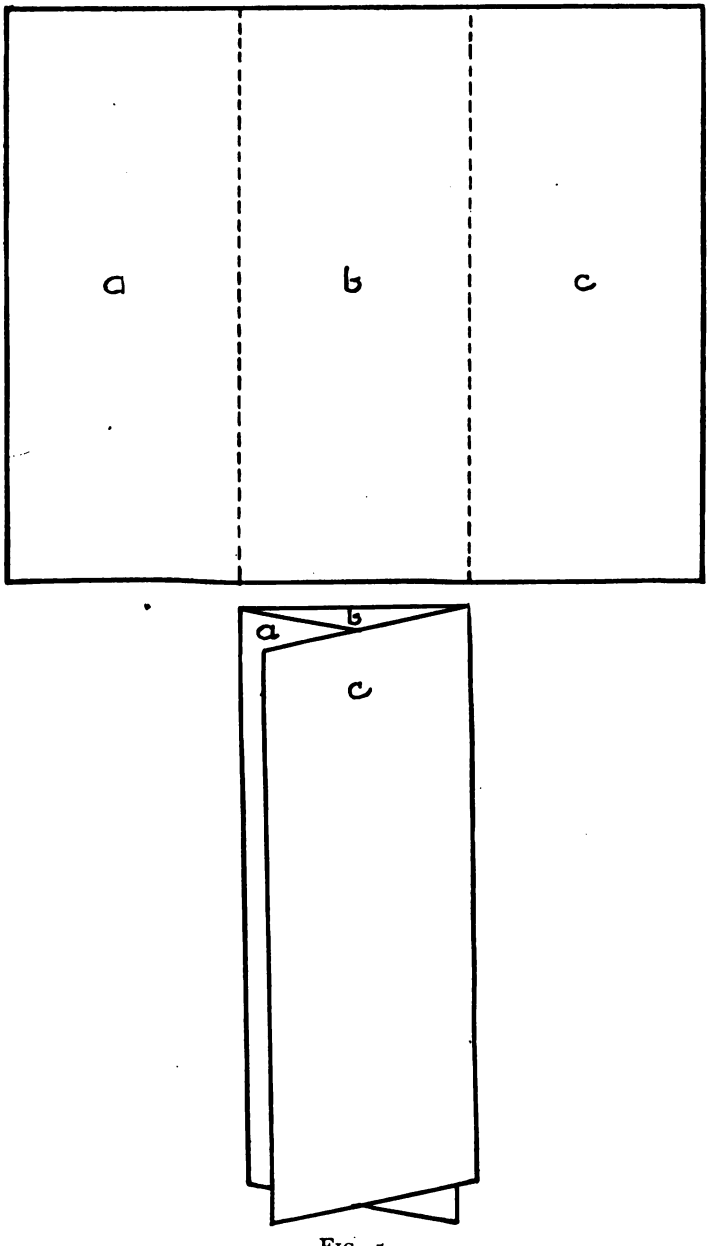

FIG. 5

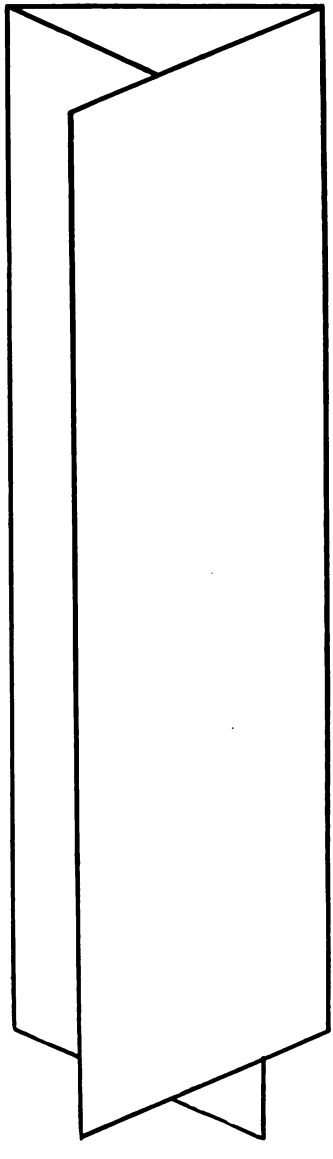

FIG. 6

Doilies. Iron square doilies the same as napkins, method 1 or 2. Fold, if not more than twelve inches square, once lengthwise and once across.

Round or oval doilies are ironed in the direction of the warp threads and are preferably not folded, unless very large, when they may be folded once lengthwise and once across.

Tray Cloths, Carving Cloths. Iron same as napkins, method 2. A tray cloth may be folded so as to make two or three lengthwise creases, all turned on the right side (see Fig. 5), but it should preferably not have folds running at right angles. A carving cloth should be folded to correspond with the creases in the tablecloth.

Table Scarfs. Iron lengthwise. Do not fold, but roll over a padded roller before putting away.

NOTE I. Fringed table linen should have the fringe carefully brushed free from tangles before ironing, and brushed smooth and the edges trimmed, if necessary, while lying flat on the table after ironing.

NOTE II. For embroidery, lace, and drawn work on table linen see chapter on embroideries, etc., pages 73 and 74.

Tablecloths. Heavy sadirons, which retain an even heat for a longer time than the finer makes of iron, are preferred by many launderers for pressing tablecloths. A wide ironing table or another table set against the ironing table is essential to the best work, since the cloth will be apt to be mussed if folded or rolled up on a smaller table before the pressing is complete, and will be dragged out of shape if allowed to hang.

Proceed as in ironing sheets, method 2, except that the cloth should be only partially dried under the iron before beginning to press the under section, in order that the whole surface may be evenly polished; and in turning over the cloth to iron the under side, the selvages are placed to the *left*, so that the motion of the iron may be in the same direction all over the surface. Great care must be taken to keep the warp and woof threads at right angles or there will be a fullness in the center. If this should happen, the part must be dampened, straightened, and ironed again. The wrong side of the cloth need not be smoothed, but the right side should be as finely polished as in napkins, and the cloth must be ironed dry.

To Fold. Only one lengthwise fold is sanctioned by the best usage; the cloth after airing is rolled on a padded roller and put away. Tablecloths in common use may be folded lengthwise in screen folds, thus the creases will be turned symmetrically when on the table; or, if the center crease is wearing thin, the cloth may be folded as in Fig. 6.

CHAPTER IV

DETAILS OF IRONING AND FOLDING HANDKERCHIEFS, APRON, CORSET COVER, BRASSIÈRE, CHEMISE, COMBINATION GARMENT, NIGHTGOWN, SKIRT, STOCKINGS. DIAGRAMS OF FOLDING. TIME STANDARDS FOR IRONING

Handkerchiefs. Iron same as napkins, method 1 or 2, except that handkerchiefs should be equally smoothed on both sides and should not be polished to a high gloss; hence the right and wrong side must be ironed alternately before either is dry.

To Fold. Fold large handkerchiefs same as napkins (1), small ones once across and once lengthwise, or merely once lengthwise. A more fanciful way to fold a lace-trimmed handkerchief to fit a gift box is shown in Fig. 7.

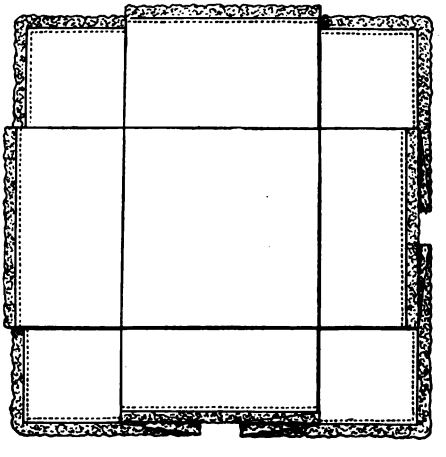

FIG. 7

Apron. Iron first the band on both right and wrong side, next the strings, which after ironing should be rolled up and pinned to avoid crumpling. Iron the rest of the apron according to the general rule — first along the hem, then in the direction of the warp threads. Iron into the gathers carefully with a pointed iron and see that the part where the gathers join the band is thoroughly dried.

To Fold. Fold a narrow apron in thirds, lengthwise, making the creases on the right side. (See Fig. 8.) Fold a wide apron first lengthwise down the center, making the crease on the wrong side to avoid an ungraceful bulge in front when the garment is worn, then make screen folds on each side, laying the strings down on the last section. A long apron is folded over in thirds towards the bottom without creasing, but crosswise folds are to be avoided when possible.

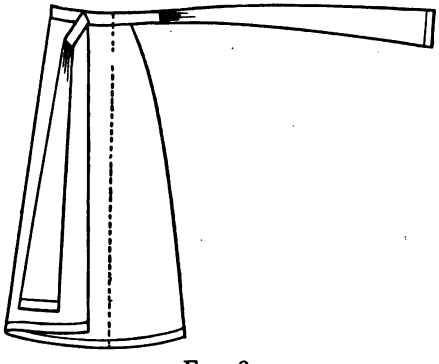

FIG. 8

Corset Cover. Iron first the trimming; if lace or embroidery, iron on the wrong side and according to instructions in Chapter VIII. Next iron the front hems, pressing carefully between the buttons with a narrow, pointed iron. Iron the rest of the garment in the direction of the warp

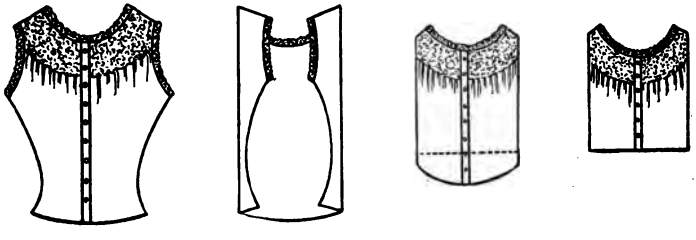

FIG. 9

threads, following instructions given for apron in ironing the gathers and where the gathers join a band.

To Fold. See Fig. 9.

Brassière or Fitted Corset Cover. After ironing the front hems turn garment with neck to the left and iron the

buttonhole side of the front from bottom to top, not farther to the side than the first dart. Iron between the darts, following the warp threads, and so on to the under-arm seam. In ironing the other side of the front reverse the process, beginning at the part nearest the under-arm seam. Iron the back as for plain corset cover.

Chemise. Place the neck of the garment to the right hand on the ironing table and iron first the trimming, then the band or yoke, if any. These should be ironed on both right and wrong side, so as to be smooth to the skin.

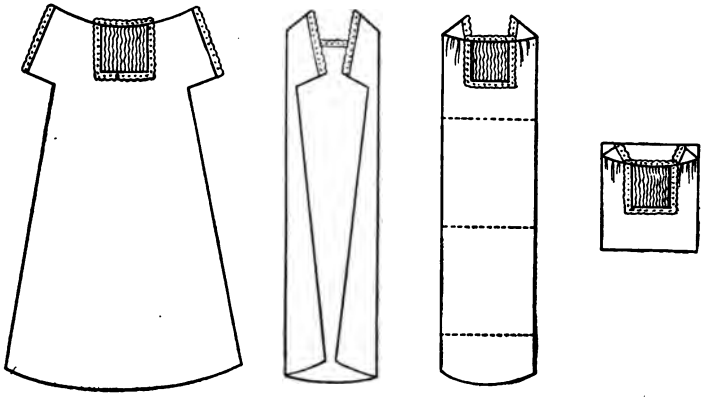

FIG. 10

Iron the sleeve trimming, armholes, or sleevelets in the same way. Fold the garment by the side seams and lay flat on table with the bottom hem at the right, taking care that the under half is smooth and unwrinkled, then iron the upper half, hem first, then with the warp threads as usual, ironing well into the gathers as in the apron. Reverse and iron the under surface. Fold as shown in Fig. 10.

Combination Garment. Iron the body part as in corset cover, the lower part as in skirt; or, if not convenient to put on ironing board, the skirt may be ironed double, according to instructions given for body part of chemise. Fold as shown in Fig. 11.

Drawers. Iron first the trimming, then the hems on both right and wrong side. Iron next the tucks on the right side, then the band and tapes, if any. Open out the garment on the table, with the front side up and the trimmed ends

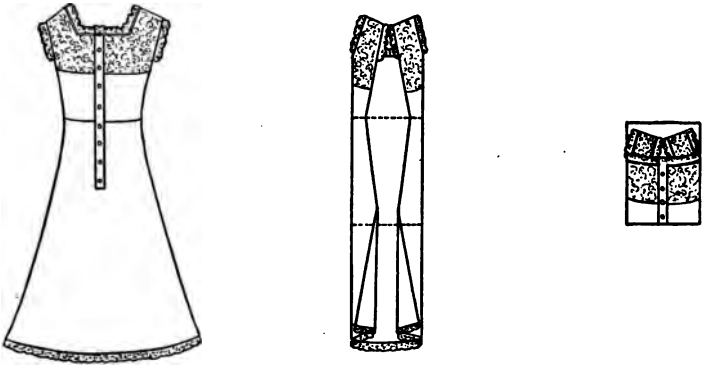

FIG. 11

to the right, and iron each leg smooth, running up the point of the iron well into the gathers. Reverse and iron the other side in the same manner. Fold as shown in Fig. 12.

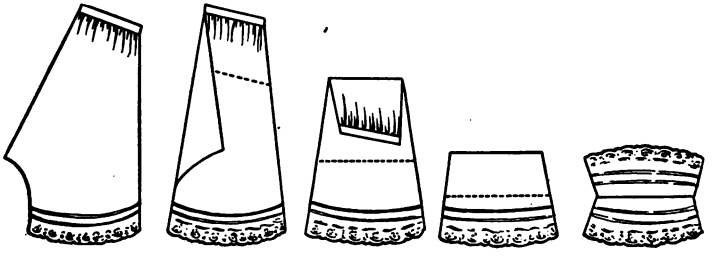

FIG. 12

Nightgown. Iron first the trimming, then the yoke on both right and wrong side. Iron each sleeve by folding it at the seam, laying it flat on the table with the cuff to the right and pressing it on both sides of the fold. Iron the opening in front as in corset cover, the body of the garment

as in chemise. Note that all hems should be ironed on both right and wrong side. Fold as shown in Fig. 13.

Skirt. Iron first the band, then the ruffle, using a narrow flounce-iron and ironing it on right side if tucked, on wrong if embroidered. Next place the garment on the skirt board, waistband to the left, and iron the part underneath

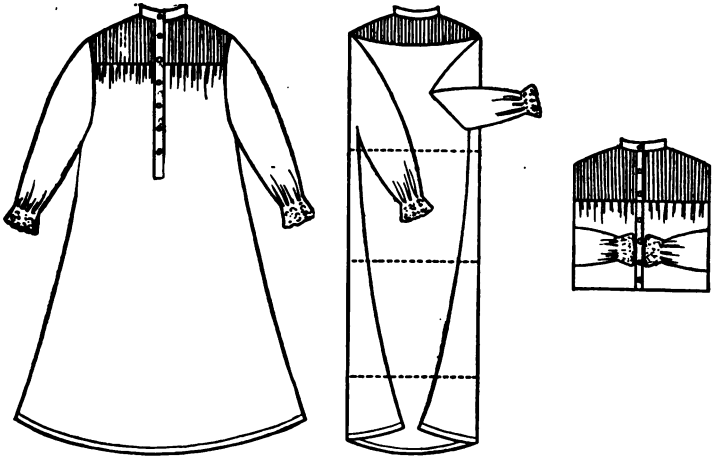

FIG. 13

the ruffle, then carry iron above ruffle to waistband. Repeat this process with each section; in this way the skirt is handled but once.

If there are two or more ruffles, the upper one is ironed first, then the space between (along the edge of the table), then the next ruffle, and so on. Some launderers iron the skirt from the beginning on the board, but delicate cambric ruffles are apt to dry out too quickly when this is done by any but a rapid ironer.

To Fold. A skirt laundered at home should not be folded. If necessary to fold, crease the center of the front and back, bring these creases together if the skirt is narrow, fold in thirds if wide. Fold top down to meet ruffle.

Stockings should be ironed on the wrong side, after folding by the seam in the back of the leg as directed for wringing. They may then have the foot pulled into

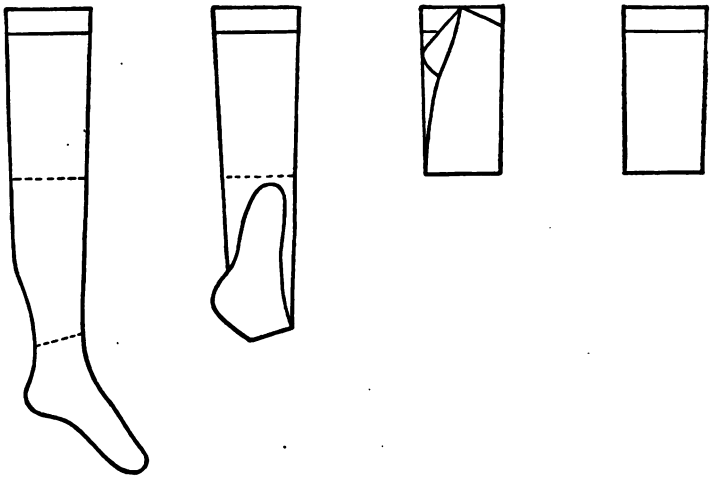

FIG. 13a

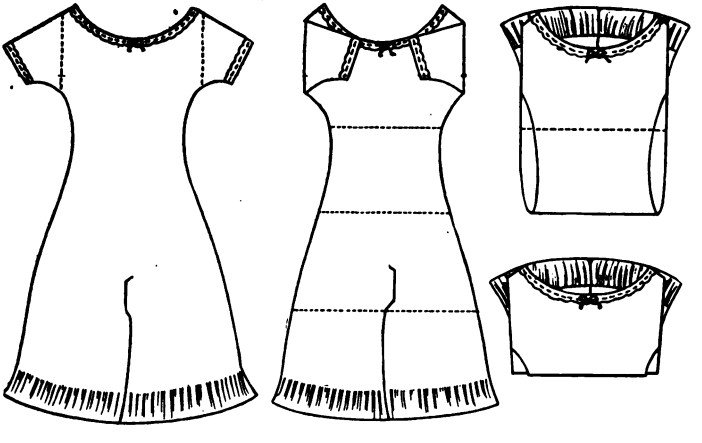

FIG. 14

the leg as far as the heel, ready to draw on, or they may be turned right side out and folded flat. (See Fig. 13a.)

To fold union suits see Figs. 14 and 15.

NOTE. Some launderers use a skirt board for ironing the body parts of nightgowns and chemises, but they may be done more rapidly and quite as effectively on an ironing table.

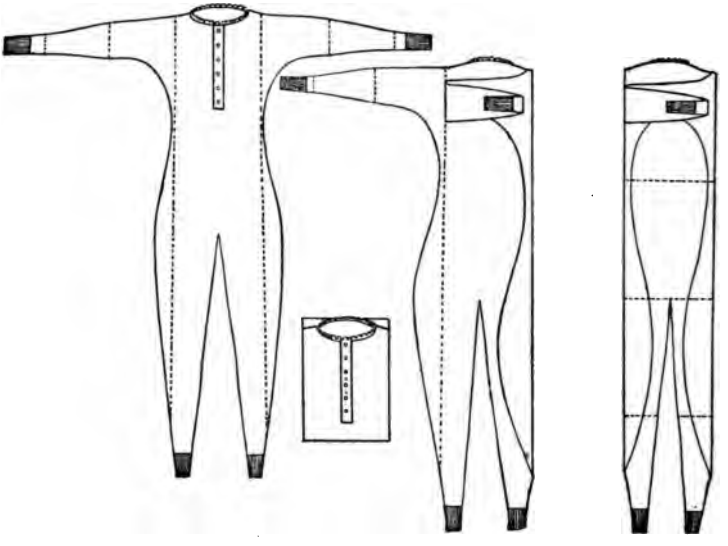

FIG. 15

AIRING

It is customary to hang each piece on a frame or clothes-horse in a warm place after ironing, particularly bed and body linen, lest any trace of dampness may remain. If this should be thought necessary, the clothes should be hung in a place where smoke, or the odors from cooking, etc., will not reach them, for freshly ironed linen seems to absorb and retain odors very readily.

TIME STANDARDS FOR IRONING

Chemise	3 – 4 min.
Combination garment (corset cover and skirt)	5 – 8 "
Corset cover	2 – 3 "
Drawers	3 – 4 "
Handkerchiefs, men's (six)	4 – 5 "
Handkerchiefs, women's (six)	3 – 5 "
Nightgown	5 – 9 "
Pillow slip	1½ – 2 "
Sheet	4½ – 10 "
Shirtwaist (tailored)	7 – 10 "
Shirt (man's dress)	15 – 20 "
Tablecloth (2½ yards by 2 yards)	15 – 24 "
Table napkins (six dinner size)	5 – 13 "
Towels (six plain hemmed)	4 – 7 "

The above represents the minimum and maximum time spent in ironing articles in ordinary use — not over-elaborate and not severely plain — by a group of housewives who are accustomed to do this work every week. The folding of the pieces was omitted.

CHAPTER V

Characteristics of Wool Fibers. To Wash Woolen and Merino Underwear, Flannelette, Blankets, Woolen Hosiery, Shawls, and Fabrics of Cashmere and Serge

Characteristics of Wool Fibers. The fibers of wool, when examined under the microscope, are seen to be composed of overlapping segments, toothed or notched at the edges. Under the influence of heat and moisture, or moisture and friction, the toothed edges of these segments, which open or expand when wet, will catch in one another and become tangled, thus causing thickening or matting of the fabric. For this reason woolen garments should not be rubbed during washing or twisted in wringing, nor should they be exposed to extremes of heat or cold, since this would promote the rapid expansion and contraction of the fibers which results in tangling of the notches. Often, even when the laundering is done as well as possible, it will be found that garments of pure wool will shrink in daily wear from the warmth, moisture, and friction of the body. This is especially noticeable under the arms, a part where woolen undergarments are nearly sure to thicken.

Colored woolen fabrics, on account of the thorough washing which precedes the dyeing, are less apt to shrink in subsequent washings, especially when they have been yarn dyed, or dyed in the woven cloth, rather than dyed in the wool. In the last case the elasticity of the wool fibers permits of stretching in the weaving process, when they will return to their original length upon exposure to dampness or moisture. In the better grades of wool fabrics this contingency need not be feared. Again, this elasticity of the fibers may be taken advantage of by stretching garments during drying, or drying them on frames or stretchers

made of wood, papier-mâché, or heavy, non-rusting wire. Such appliances are often used in fine laundries for drying infants' flannels, hosiery, all-wool underwear, etc., but they may be dispensed with by the careful launderer at home.

Wool, like hair, on account of its gloss and luster, does not hold dirt so tenaciously as cotton or linen, hence it is much easier to cleanse.

Woolen garments should always be washed by themselves, and it is better not to wash them in a machine, especially if this has a rubbing or beating attachment. Washing by steam should also be avoided for wool fabrics.

To Wash Woolen Underwear. The first essential is soft water, rain water if possible, otherwise any natural soft water. This should be just pleasantly warm to the hands, not more than 112°–115° F., for hotter water will tend to shrink the flannels, cooler will not dissolve the dirt. Add to the water a small amount of borax or ammonia, preferably the latter on account of its volatile property, though borax is safer for colored flannels. Two tablespoonfuls to a pail of water, or enough to produce a slight slippery feeling, is all that is needed. Stir in enough soap solution to make a suds — a good homemade soap or a fine white laundry soap should be used, for the soaps containing resin or free alkali will cause shrinkage or discoloration. Shake the garments free of dust, turn them inside out, and immerse them in this bath of warm, soapy water and ammonia, cover the pail or tub so as to retain the heat, and allow the garments to steep for fifteen to twenty minutes. Then knead, punch, and work them up and down in the water to drive the suds through the meshes, but do not use a rubbing motion. If the things are very dirty, a second bath, similar to the first, will be necessary, otherwise they should be put through the wringer into the rinsing water. This should be the same temperature as the washing water and should be slightly soapy, for flannels, like chamois skin, will dry stiff and harsh unless this trace of soap, as a lubricant, is present in the rinsing water. For pure white

flannels a very little bluing may be added, if desired, but this should be a bluing known to be free from iron. (See Bluings, page 93.) After rinsing put the garments again through the wringer or press the water out without twisting. They are best dried out of doors in a light breeze, for this helps to fluff the fibers. If the garments must be dried in the house, the heat should not be so great as to cause vaporization of the moisture, for shrinkage quickly results from excessive heat in drying. When dry they should be turned right side out, stretched in every direction, folded, and pressed by placing them for some hours under a weighted board. Flannels are better not ironed, but they may be put through a cold-roll or a slightly heated mangle. Daintily fine flannels may be pressed with a moderately warm iron through a piece of thin, damp cheesecloth or coarse tarletan or scrim, which when lifted will raise some of the surface fibers and thus restore the fluffy appearance of new goods; or a rather cool iron may be applied directly to the fabric, and the surface then rubbed gently all over with a bit of clean, coarse flannel or a bath mitten to restore the fluffiness.

Merino Underwear. This has usually a mixture of more or less cotton. It should be washed the same as all-wool garments, but since cotton is not so readily freed from dirt as wool the most soiled parts may need gentle rubbing — how much will depend on the proportion of cotton in the fabric.

Flannelette. When not very dirty this can be washed with the woolen garments. It will not, however, unless colored, be injured by soaking, boiling, or treating the same as white goods. Flannelette garments may be mangled or ironed and then brushed lightly with a clean whisk broom to restore the nap.

Blankets. Proceed as for washing underwear, only on a larger scale. It is better to wash blankets one pair at a time when they are done at home, for the tubs are seldom large enough to allow thorough manipulation of two or

more pair. In making the soap solution allow from one-fourth to one-half a pound of soap for each pair of blankets, according to the size, and the amount of dirt to be removed. Stains or very much soiled spots may be rubbed gently *in one direction* with a small brush. Some housewives wash blankets — especially those with colored borders — without the use of soap, in a solution of one pound of borax to about twelve gallons of water; but a solution of mild soap with the addition of a little borax or ammonia will be found more effective. After rinsing the blankets should be laid in long folds and put through the wringer, getting out as much water as possible. Before hanging to dry, if two persons take hold of the blanket by opposite corners, lengthwise, and flap it up and down in the air, a surprising quantity of water will be released even after thorough wringing, and creases will be removed and the nap fluffed up at the same time. When this is not done blankets can be hung on the line without wringing, the water is quickly shed from the wool and there will be no creases; but it is not easy to hang so heavy a piece without drenching the garments of the worker. Some ingenious housewives avoid creases by hanging the blankets on the line after wringing from the wash-water, and rinsing them by spraying with a garden hose.

Blankets may be doubled and stretched on window curtain frames to dry or they may be hung on the line. Those with colored borders should be hung with the borders at right angles to the line, so that in case the colors run they may neither stain the white part nor run into each other.

After they are dry the blankets should be pulled straight and the nap brushed up with a clean whisk. They should then be laid in soft, even folds and put away, preferably without pressing.

Woolen Hosiery. This should be washed the same as woolen underwear, but if colored should be washed separately, and if necessary one of the reagents for restoring color (see page 61) may be tried — though the same sub-

stances do not always similarly affect wool and cotton. Wring, hang, etc., as directed on pages 23 and 33. Pull into shape when nearly dry, iron on the wrong side, and pull the foot smoothly into the leg as far as the heel, ready to draw on, or turn right side out and fold flat as shown in Fig. 13a.

Shawls. Wash same as underwear. Stretch into shape while drying, or dry in a curtain stretcher, or baste or pin to a sheet and peg this taut by loops to the drying green. Knitted shawls should not be ironed, finely woven shawls may be ironed as directed for fine flannels or laid between the folds of a sheet and passed through the mangle.

Cashmere, Black. Wash same as flannel, using ammonia in a slightly extra amount. Rinse in well-blued water, free from soap. Iron while damp and on the wrong side.

Cashmere, White. Wash same as flannel, but make the soap solution of Castile soap, substitute borax for ammonia, omit the trace of soap from the rinsing water, and use a very little bluing.

White cashmere is difficult to iron. If dry it cannot be smoothed perfectly, if damp it may become shrunk and discolored by a hot iron, and it will crinkle if the iron is cool. It is best to lay the goods right side down on the ironing table, cover with a damp cloth, and iron over this with a moderately warm iron, pressing down heavily.

Serge, Blue or Black. Wash in *cold* water prepared as for flannels. Rinse in slightly warm water, free from soap, but with a little ammonia added. Iron same as black cashmere.

Serge, White. Wash and iron same as white cashmere. Some weaves of serge, no matter what color, are difficult to manage, and a small piece should first be experimented with.

NOTE. Colored flannels need cooler water, should be kept from the sun while drying, and are better allowed to drip without wringing. Soap is omitted from the rinsing water, and some launderers add one pound of common salt to the rinsing tub to prevent the colors running. This, however, is apt to make the fabric harsh.

CHAPTER VI

THE COLORED CLOTHES. GENERAL METHOD OF WASHING COLORED GOODS. STAINS ON COLORED CLOTHES. TO WASH IN STARCH. TO WASH IN OATMEAL OR BRAN. AGENTS TO SET AND RESTORE COLOR. STARCHING, IRONING, AND FOLDING OF TAILORED SHIRTWAISTS AND DRESS SKIRTS. DIAGRAMS OF FOLDING

Colored Clothes, General Method. Like flannels, colored clothes should be washed by themselves. Lukewarm water should be used and a weak solution of mild white soap, in the proportion of one ounce of soap to every quart of water. The articles should be washed one piece at a time — kneaded rather than rubbed — thoroughly rinsed, and dried quickly, wrong side out and in a dark or shady place. Use bluing only for black, blue, or blue-violet goods. While it is true that the "duro," the "sundour," and other fabrics of guaranteed fast dye will resist the action of the ordinary reagents used in washing and will stand exposure to sunlight in drying, nevertheless some alteration, if not fading of the tint, is apt to result if care is not employed in the laundering. Hence, unless the dye has proved itself resistant, a good rule to follow is that colored clothes should not be soaked or boiled or washed in very hot water, nor should any but a pure, mild soap be used, and this should not be rubbed directly on the fabric.

Stains on Colored Clothes. In removing stains from colored clothes only the milder reagents, such as milk, glycerin, borax, common salt, starch paste, corn meal, etc., should be used, and with the exception of the last two, experiment should first be made on a small portion of the stain.

To Wash in Starch. Delicately colored shirtwaists, dresses, etc., if not badly stained or exceedingly dirty,

may be washed in starch without fear of injury to the tint and with the result that the fabric will have the texture and appearance of new goods, since the starch, if properly used, will not act chemically on either the fibers or the dye, but will remove the dirt by mechanical lubrication.

Method. Blend smooth one-half cup of starch in a little cold water, cook until clear in two quarts of boiling water, add to the mixture four quarts of cold water, strain if lumpy, and wash the garment in this the same as in soapsuds, rubbing the most soiled parts. Prepare a second starch water, using only half as much starch to the same quantity of water, wash the garment again in this, then rinse *thoroughly* in abundance of cold water to remove excess of starch. Enough will remain to give the appearance of new goods after ironing. Bluing may be used in the last rinsing for blue cottons or linens, for some mixed tints, or a trifle for light prints, that have been yellowed.

Oatmeal or Bran are excellent for washing natural-colored or tan linens, also for pink dyes. Wash in lukewarm water and wet meal or bran, rubbing these well into the most soiled parts and rinsing thoroughly out. If the clothes are much soiled, a cupful of the bran or meal may be boiled in a quart of water, and this mixture *when cool* used for washing. The lubricant action of the meals is increased by the jellying of their starch content after boiling.

NOTE. It is important that hot starch in any form should not be used either to cleanse or to stiffen colored cottons, for this will often act chemically on the dye, causing an alteration of color.

To Set Colors before Washing. The action of the mordants used in dyeing is sometimes neutralized or overcome by the use of soap in laundering. To guard against this, one of the common household mordants may be used to set the colors before washing. Different colors may be treated with different substances.

Black, Deep Blue, or Very Dark Colors. Dissolve from one to two tablespoonfuls of oxgall in a quart of water, soak

the garment in this solution, wring, *dry thoroughly*, and then wash according to general directions; or from two to four tablespoonfuls of common salt may be used in the same manner. Sometimes the articles will profit by prolonged soaking, for overnight or even for two or three days, in either of the solutions, but it is always advisable to experiment at first with a small piece of the goods.

Green. One-half to one ounce of alum, according to the depth of the tint, or the same proportion of sugar of lead. Use as directed for the reagents for black.

Mauve, Heliotrope, Violet. Dilute spirits of turpentine with four to six times its volume of pure water. Use as already directed.

Pink, Red, etc. Use from one tablespoonful to one-half cup of vinegar added to a quart of water.

Goods Dyed or Printed in Mixed Colors. Wash in the ordinary way a small piece of the material, dry, and note whether the colors run or whether they fade.

If colors run, use salt and water as a fixative, sometimes as much as a cup of salt to a quart of water, or borax may be used in the same way.

If colors fade, use alum, from one to two tablespoonfuls to a quart of water in the last rinsing.

NOTE. One (level) teaspoonful of Epsom salts to a quart of water is said to prevent colors from either running or fading in the washing. It should be used in both the washing and the rinsing waters.

To Restore Colors after Washing. Reagents to restore color are used in the rinsing water, and they act by destroying that which has destroyed the color. The substances used to set color may also be used for its restoration, but since these are often fixatives of dirt as well as of dye, the methods of setting color are preferably employed for new or slightly soiled goods and the restoration methods are preferred for older and dirtier garments. The same proportions may be used and the garments immersed in

the various solutions after the last rinsing, then wrung, and quickly dried.

NOTE. Since new reagents and new methods are constantly being employed in dyeing it is not safe to use any method of fixing or restoration without first experimenting on a small piece of the goods.

TAILORED SHIRTWAISTS

If the waist has been washed in starch, bran, etc., as recommended on pages 59–60, only the parts requiring to be stiff-starched need to be further stiffened. If the garment has been washed in the ordinary way, the whole waist may be stiffened with medium starch (see page 29) before drying. After drying the following parts should be stiff-starched: the collar or neckband, the cuffs, and more slightly the front plait and yoke, if there is one.

To Stiff-Starch a Waist. Dampen a sheet and stretch it tightly on the ironing table, fastening it down with thumb tacks. Have ready a bowl of water, a piece of cheesecloth, and a bowl of stiff starch (see page 30) just cool enough to handle. Begin with the cuffs, lay them wrong side up on the table, stretch and straighten the edges, and remove any wrinkles by rubbing with cheesecloth. Then apply a portion of the hot starch, rubbing it well in with the heel of the hand until the grain of the cloth can be felt at the wrong side and the starch can be seen glistening through at the right side. Be careful not to let the starch get into the sleeve gathers. After thoroughly rubbing in the starch any excess must be removed with a piece of cheesecloth, but blisters will form during ironing unless the folds have been saturated through and through with starch. Rub starch into the front plait and the yoke in the same way and let the waist dry before ironing.

NOTE. Dark blue waists should have the starch well blued, black waists may have the starch darkened by strong coffee, other pronounced colors may have a little dye of the same tint added to the starch for the stiff-starching.

To Iron a Waist. Quickly immerse the whole waist in cold, soft water and put it through the wringer. Have two

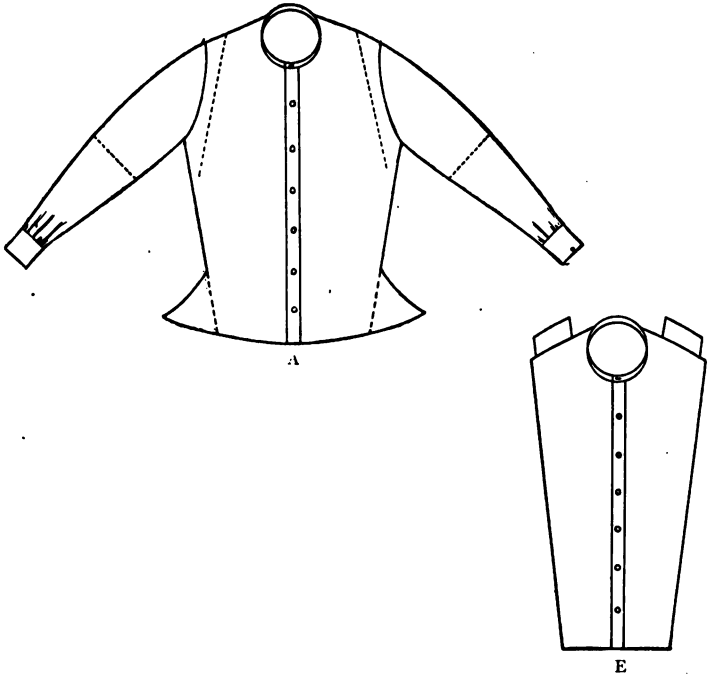

FIG. 16

irons ready, one flatiron, five to seven pounds, and one polishing iron. Lay the waist on the table or on the polishing board right side up and with the neckband at the right, straighten this, rub smooth with a cloth, partly dry it with the flatiron, then polish with the polisher, using great pressure and passing the polisher back and forth along the entire length until the band is nearly dry and has a fine gloss. Smooth with the polisher on the wrong side, then complete the polishing on the right side until the band is quite dry. Proceed in the same manner with the cuffs, then polish the front plait and the yoke, using the iron on the right side only.

Iron the sleeves, folding each one by the seam and pressing almost but not quite to the opposite fold to avoid making a crease. This narrow unironed strip is ironed flat afterwards. Introduce a small iron into the wrist gathers and smooth and dry each portion without making creases. Iron the shoulder fullness on a sleeve board or over the corner of the table. Finish the ironing of the waist in the following order: fronts, back, under-arm piece, waistband, skirt or peplum. All seams should be carefully dried out in ironing, and tucked fronts should have the deep tucks raised with a thin paper knife and the part beneath pressed smooth.

A dull finish may be given the polished parts by passing a slightly damp cloth over them while hot from the polisher. This will take the shine off, while leaving the surface satin smooth.

NOTE. Shirtwaists of colored print are sometimes ironed on the wrong side to give the appearance of new goods. This is best done over a piece of cambric, or an ironing sheet of very fine weave. Fabrics with a raised pattern should also be ironed on the wrong side.

To Fold a Waist. (See Fig. 16.) Fasten the garment at neck and waist line and lay front downwards on the table. Fold back the sleeves, turn the cuffs up to the neck, pin the side seams together at the center in the back, fold up the skirt at the waist line and pin where the side seams join. Do not crease at any of the folds.

Dress Skirts. These are starched according to the stiffness desired or the material used in making them. The skirt length should be measured at front, sides, and back before the garment is washed, and each part should be stretched to the corresponding length while the skirt is damp, just before ironing. Put the skirt on the skirt board, if plain, and iron first the hem of each section parallel with the stitching, then iron each section or gore in the direction of the warp threads, pressing heavily and keeping the part drawn out to the proper length. Plaits should be laid straight and true with the utmost care and, after pressing, should be raised and the mark made by the plait smoothed out with the iron. Care should be taken to iron perfectly dry all seams and hems, the placket, and the joining of the waistband with the skirt.

If the skirt is ruffled, iron as directed for ruffled underskirts, page 50.

If a dress skirt must be folded, lay it on the table with the front breadth down, lay each side over to the middle of the back, double these sections again if the skirt is wide, until a long, narrow strip is formed, about fourteen inches wide. Do not fold across. (See Fig. 17.)

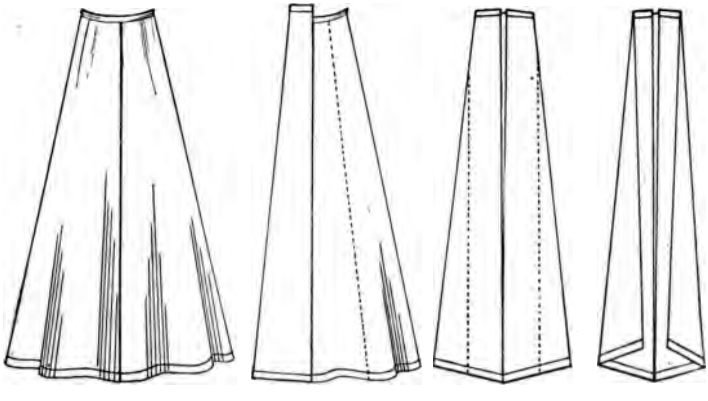

FIG. 17

CHAPTER VII

STARCHING, SPRINKLING, AND IRONING OF DRESS SHIRTS — CLOSED OR OPEN FRONTS. COLLARS AND CUFFS. METHODS OF FOLDING SHIRTS. DIAGRAMS OF FOLDING

DRESS SHIRTS

Starching. A white dress shirt, after washing, has the bosom, cuffs, and collar or neckband dipped into medium starch. (See page 29.) This should be as hot as possible and the parts, after dipping, should be rubbed between the hands so that the starch may penetrate the many thicknesses. When the shirt is dry, stiff starch (see page 30) should be rubbed into the same parts in exactly the manner directed for stiff-starching a shirtwaist (see page 62) and the excess carefully rubbed off with a very slightly dampened cheesecloth. Bluing should not be put in the starch for gentlemen's linen. A French writer says that the fine dress shirts of a man who is *bien soigné*, or elegantly cared for, should be a dead, shroud white, and that even a yellow shirt is preferable to one which has the smallest tinge of a blue white. This is probably because a yellow tint is not so apparent by artificial light — where a dress shirt is generally worn — while a blue tint is often emphasized.

After the excess of starch is rubbed off, the shirt should be put to dry in such a way that the starched parts will hang perfectly straight, for wherever these are bent or creased during drying they will be the first parts to wrinkle during wear. Some launderers dry the shirt on a coat hanger or run a smooth stick through the shoulders and then pin the flap over the line, the stick serving to hold the inverted bosom flat and smooth.

Sprinkling. When it is desired that a shirt shall be very stiff, the bosom, collar or neckband, and cuffs are wet with cold starch. (See page 30.) The sleeves are then folded over the bosom with the cuffs turned back, the flaps folded over the sleeves and cuffs, the garment rolled tightly, and allowed to stand for thirty minutes. Where a less degree of stiffening is preferred, the lower part of the shirt is well sprinkled — sometimes wrung out of hot water — and folded over the bosom, the sleeves laid above this with the cuffs next to the wet part, and the whole rolled up as before.

Ironing. Fold the shirt down the middle of the back and iron on both sides of the fold. This should be always done first, for the back cannot well be ironed after the bosom is finished. Fold by the side seams and iron the front on the back. Straighten the yoke or shoulder straps and iron until nearly dry, then polish slightly. All this work should be done rapidly, so that the starched parts may not dry out. Next straighten the neckband, rub with a damp cloth — especially if cold starch has been used — and proceed to iron and polish it exactly as directed for neckband of shirtwaist. In the same way iron and polish the cuffs. Slip the bosom board under the stiff front with the square end of the board towards the neck, and lay on the ironing table with the neck at the left hand. Tuck a little of the unstarched part of the front under the board to hold it in place, then stretch and straighten the bosom perfectly square and true, using the rubbing cloth freely.

For a closed front first iron the side of the bosom nearest, then the center plait, lastly the farther side. If cold starch has been used, which is very apt to stick to the iron of the inexperienced worker, a piece of thin muslin may be laid over the bosom and the flatiron rapidly passed over this once or twice to dry the surface, then the cloth removed and the bosom polished. If wrinkles appear, dampen and press out. Lift up the edges of the front plait with a paper

knife, iron under the folds, then press the plait flat again as directed for shirtwaists. Since the bosom cannot be pressed on the wrong side because of the difficulty of turning the garment, great care must be taken to get it ironed perfectly dry. The many thicknesses where the neckband joins the stiff front need special attention, for this part, if not thoroughly dried, will give way under the pressure of the collar when the garment is worn — and a weak spot in this place marks the inexperienced launderer. Lastly, iron and polish the tab and smooth out the creases made by tucking the unstarched part under the bosom board.

For an open front first iron and polish the upper side, omitting a small triangular space at the bottom. When all but this part is polished dry, turn back this side of the front, creasing at this flexible, unironed part, and iron and polish the under side. Then slip a bit of doubled flannel between the two sides and iron the upper side over the under at the part omitted.

Collars and Cuffs. Rub in stiff starch (page 30) as directed for shirtwaists and shirts, dry flat by running a string through the buttonholes and pinning the ends of the string to the line. Dampen with cold starch (page 30) and iron and polish as directed for neckbands and cuffs of shirt. Turned-down collars or those which have the ends turned over are first ironed and polished flat, they are then warmed a little with the flatiron, slightly moistened on the wrong side along the line to be turned, then creased with the fingers and the crease pressed a little with the iron on the inside. Collars and cuffs are curled after they are polished dry by running a hot flatiron over the wrong side, at the same time pulling the collar into a circle with the fingers from under the iron.

Collars on Shirts. Iron and polish either before or after the cuffs are done; a turned-down collar is not creased until the rest of the shirt is finished.

To Fold the Shirt. Fasten the collar and cuffs, and the

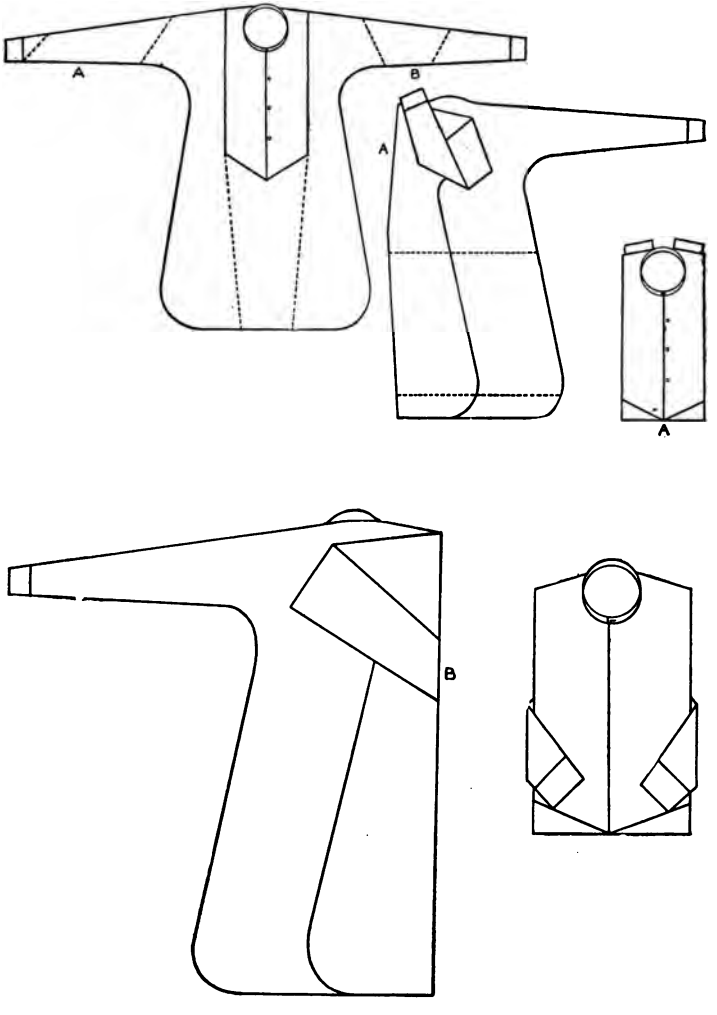

FIG. 18

bosom if open. Lay on table with bosom down and fold back the sides parallel with the stiff fronts, swinging in the ends a little more at the bottom and folding the sleeves

according to Fig. 18A for shirts with wristbands only, according to Fig. 18B for shirts with cuffs attached. Fold up the bottom as far as the flaps, then proceed according to the diagrams and pin at the joining of the folds.

NOTE. For a dull finish see page 64.

CHAPTER VIII

WASHING FINE LINGERIE. CLEAR-STARCHING. WASHING AND IRONING OF CHIFFONS, EMBROIDERIES, DRAWN WORK, SMOCKING AND PUFFING

Fine Lingerie. Delicate lingerie waists, the fine dresses of infants, and all thin, sheer fabrics should be washed by themselves in a warm suds made of mild soap and rain water or in a natural very soft water. The garments should be swished up and down and gently kneaded until cleansed. If they are so soiled as to need rubbing, they may be laid between towels and thus rubbed with the hands, or the soiled parts may be laid over a white cloth and gently stroked on this foundation with the fingers and in the direction of the warp threads, lest the weave be pulled. Should boiling be necessary, the fine garments should be inclosed in a linen bag or a clean pillow slip, put on in cold water, and removed when this comes to a boil. The only allowable detergent, besides a mild soap, for either washing or boiling fine things, is a little borax. Rinsing should be very thoroughly done, especially in the case of infants' clothing, lest a trace of alkali be left to irritate the delicate skin. Bluing is preferably omitted or only a trace used. Fine things are apt to be injured if hung on the line and are best dried on the grass or on a sheet stretched on the ground.

Lavender scented water is sometimes used for the last rinsing of fine nightgowns, infants' wear, thin dresses, etc.

Clear-Starching. The name "clear-starching" is given to the process of starching thin, transparent materials in such a way that there will be no clogging of the meshes of the weave, no opacity due to the coating of the threads as the

starch dries, and no loss of transparency resulting from the use of starch as a stiffening agent. Clear starch may be made by any of the following methods:

(1) Dilute one-half cup of stiff starch (page 30) with one quart of water, boil until clear, strain, and use hot.

(2) Blend one teaspoonful of laundry starch with a little cold water, cook for half an hour in one quart of boiling water, strain, and use hot.

(3) Substitute one-fourth cup of well-washed rice for the laundry starch in (2) and cook as directed. Strain and dilute with one more quart of boiling water.

NOTE. Very thin, open weaves should be clapped between the hands after starching to clear the meshes of the fabric.

To Increase the Stiffness in Clear-Starching. Add from one teaspoonful to one tablespoonful of powdered gum arabic, dissolved in one-half cup of boiling water, to any of the recipes given. Only the purest gum arabic, which is almost colorless, should be used.

One-half to one tablespoonful of borax used in the same way will somewhat increase the body of the starch and will give greater permanency to its stiffening quality. (See page 31.)

CHIFFONS

These sheer, delicate fabrics may be cleansed by sousing them in alcohol to which has been added a little pure soap solution. They should be rinsed in clear alcohol and spread flat, without wringing, on a linen or other absorbent cloth until dry. Chiffon should dry without wrinkling, but if pressing is necessary, this may be done on the wrong side with a slightly heated iron. Chiffon can also be cleansed in a suds made of rain water and Castile soap, rinsed, and put through the wringer between folded towels.

EMBROIDERIES

Colored Embroideries (Silk). Soak for fifteen or twenty minutes in cold water, wash in a nearly cold suds made from Castile soap, swishing about in the water and kneading gently. Rinse in fresh cold water, place between cloths, and put through wringer with the rollers rather tight. Never let the goods stand in the water while washing, and have the rinsing water ready before wringing them from the wash water, lest the colors run while standing. Colored embroideries should be washed quickly and one piece at a time.

To iron lay wrong side up, over two or three thicknesses of flannel, and iron the embroidered parts until thoroughly dry. Then turn on the right side and with a small iron go over the plain parts.

Crewel Work (Wool). Wash in bran water to which a little Castile soap solution has been added. Rinse at once in salt and water. Wring, iron, etc., as for silk embroideries.

Raised Embroidery. If white, this may be washed according to the directions for washing the goods which it decorates. If colored, follow the directions for colored clothes, or for silk or wool if the work is done in this material. Raised embroidery should be ironed on a specially padded board (see page 101) and with a well-pointed iron that can be pushed into the interstices. The fine wrinkles that are apt to form between the lines of the design should be smoothed out with the point of the iron. (See Note.) Complete the work by ironing on the right side, as directed for silk embroideries.

Embroidered Doilies, etc. Square doilies, centerpieces, etc., should be ironed in the direction of the warp threads to keep them straight, first on the wrong side and all over, then on the right side over the plain parts to give smoothness. For round or oval pieces the ironing should be begun

at the center, pressing outwards along the warp threads to avoid puffiness in the middle. Table scarfs or other long, narrow pieces should be ironed first lengthwise to keep the edges straight, then smoothed over the unembroidered parts on the right side in the direction of the warp.

NOTE. Embroidered articles should be ironed before they are quite dry, or wrung out of hot water, to give an all-over, even dampness.

Embroidery must be ironed until perfectly dry, otherwise the dampness will be absorbed by the adjacent parts and they will crinkle.

DRAWN WORK

This is more difficult for the inexperienced ironer than any other kind of decorative work, since it is exceedingly apt to shrink. After dampening it must be patiently stretched and pulled into shape on the ironing table and modeled with the iron into its original form. Corners require great care to get them square and true, and redampening of faulty places must be repeated as often as necessary until every part of the article lies straight and even.

SMOCKING

A smocked garment has the plain part ironed first, then a warm iron with an adjustable handle should have the handle removed, the iron placed face up on a stand on the table, and the smocked part, slightly dampened, pressed rather firmly while moving it slowly over the heated surface until it is dry.

PUFFING

Puffing is doubled lengthwise and ironed with a small, pointed iron well into the gathers. It is then opened and the crease redampened and smoothed out with the point of the iron. Or a puff iron can be used. (See page 104.)

CHAPTER IX

LAUNDERING OF LACE CURTAINS AND OTHER WASHABLE CURTAINS. WASHING, STIFFENING, AND PRESSING OF FINE LACES, WHITE AND COLORED. WASHING OF SILKS AND RIBBONS

LACE CURTAINS

To Wash. Lace curtains, like all other articles that have to be laundered, will suffer less from repeated washings than if they are allowed to become so very dirty that either hard rubbing or severe detergents have to be employed to cleanse them.

The curtains should be measured after taking down, and well shaken in the open air or brushed with a soft brush to free them from dust. If very dirty they should be kneaded in several soft waters before washing or soaking, for the dust and dirt collected by curtains is easily removed by mechanical means, but will form a kind of mud which will settle in the threads and be very hard to wash out if the curtains are allowed to stand in the water before the loose dirt is got rid of. After this they may be soaked for half an hour or more, or immediately washed in a mild soap solution by swishing about or sopping up and down — never rubbing — then rinsed, blued if necessary, but only very slightly, for the loose weave will take up the color, and starched. The starch for window curtains should be boiled for at least half an hour and should have a tablespoonful of borax added for every quart of water, to prevent excessive absorption of moisture. Medium starch (page 29) is generally used for curtains, but much depends on the dryness of the air — foggy regions and the seacoast or lake shore being destructive to stiffening — and the coarser and more

open weaves need a stiffer starch than the close weaves. Much, too, depends on the preference of the housewife; a very stiff curtain will remain clean longer, but does not drape so gracefully.

Fine lace curtains that have become discolored may be bleached out by soap and sunlight, as directed for fine lace.

To Dry. If a curtain frame is available, this should be set to the measure of the curtains taken before washing, and the curtains carefully pinned in, with the edges even and the points matched. A pair or two can be dried in one frame. In the absence of a frame the curtains may be pinned to a sheet, which in turn is pegged on the grass through loops of strong tape, or is tacked to the floor of a spare room if there is no drying ground; or the curtains may be pinned on a mattress that has first been covered with a sheet. Too much care can hardly be taken in inserting the pins in drying curtains, so that the edges may be even and not present a waved appearance.

After they are quite dry the curtains may be hung without ironing, but they will look better and form more graceful folds if they are pressed, without sprinkling, with a cool iron and on the wrong side. Curtains may be put through a mangle by a careful worker, but they are easily pulled out of shape in this way.

Scrim Curtains. Curtains of this material, shrunk before making up, may be dried by pinning the upper edge carefully to the line and running a smooth stick or a clean broom handle through the bottom hem. Scrim curtains are often preferred not ironed, or merely pressed a little when dry to give the appearance of new goods.

Lined Curtains. The lining of curtains is more apt to shrink than the outside, and in ironing the lining should be pressed from the middle towards the edges, so that this shrinkage may not be noticed.

NOTE. Curtains can be cleaned at home without laundering by first brushing well, then rubbing the whole surface with stale bread crumbs, beginning at the top and working down. As the crumbs get dirty they are

brushed forward, and the partly cleansed place is gone over with a new lot. These, when partly soiled, are used to begin the cleaning of the next section and in turn brushed forward and a fresh lot used to finish the cleaning. In this way the whole fabric is gone over twice. When carefully done the cleansing is perfect and the curtains look like new.

FINE LACES

White Lace, to Wash. Fine laces are never quite the same after washing, for they will thicken slightly. If they must be washed, they should be swished up and down in a Castile soap solution and the most soiled parts stroked gently with a piece of muslin over the finger-tip, being careful not to break the delicate threads. They should be rinsed in two or three clear warm waters. Or the lace may be basted between strips of flannel or cheesecloth — every point fastened down — and washed in this way. The shape is easier to preserve by this method, and delicate threads are less apt to be broken. Very much soiled lace should be soaked in a soap solution in which a little borax has been dissolved, one-half to one tablespoonful to a quart of water; or a teaspoonful of turpentine may be added if the lace remains dirty. These detergents are less destructive to fine lace than even the gentlest rubbing. Lace that is much yellowed and discolored can be bleached by placing in a clean, strong suds of Castile soap and standing it in direct sunlight. This method will clean and whiten the most discolored lace, but it takes long patience, for the exposure to the sunlight must be continued for one to twenty days, according to the obstinacy of the discoloration or the closeness of the stitch of the lace.

To Stiffen. Lace may be stiffened with a little very weak clear starch or preferably by dipping into one of the following solutions:

½ teaspoonful of gum arabic to 1 pint of water
4 tablespoonfuls of alcohol " " " "
2–4 " " borax " " " "
½ ounce (two lumps) of sugar " " " "

Sugar should not be used if the lace is to be pressed with a hot iron, since it will turn brown. To dip lace in skimmed milk will impart a very slight stiffness, but this too will discolor slightly under a hot iron. These last two methods may be used for cream, brown, or ecru laces.

To Dry and Press. Small pieces of lace may be laid smooth while wet on a marble slab, a mirror, or a window-pane, and left until perfectly dry. Every *picot* (loop) must be picked out with the point of a pin or the blunt end of a needle to restore the feathery appearance to the edge that is seen in new lace. Larger pieces of lace can be pinned down on a smooth, tightly stretched cloth, the pins inserted slant-wise, and every point pinned into shape. When nearly dry the *picots* should be opened as already directed, and the edges modeled with the finger-tips to give the effect of new lace. These methods are especially suitable for laces with a raised pattern.

Or the lace may be spread to dry the same as fine lingerie, pulled into shape when nearly dry, placed over two or three thicknesses of flannel, a cloth on top, a board weighted with heavy flatirons over this, and so left until the drying is finished.

Some fine laces are improved by ironing, if this is done on a table padded with soft flannel covered with a piece of cambric. The lace should be laid right side down on this, covered with another piece of cambric or fine muslin, and pressed on the wrong side. The covering cloth should be raised from time to time, and the edges of the lace modeled with the fingers to an accurate symmetry. Fine lace that has been dried in its original shape by one of the methods already described may often be given a more finished appearance by pressing between cloths, when perfectly dry, with a rather cool iron.

Ecru Lace. Wash as directed for white lace, but use an infusion of tea for the final rinsing water.

Dark Brown Lace. Wash in equal parts of very strong,

clear coffee and ammonia water — no soap. Rinse in clear, cold water and stiffen with gum arabic or milk.

Black Lace. Black lace may be washed in one part of the following mixture added to two parts of rain water:

Camphor	1 ounce
Alcohol	2 tablespoonfuls
Borax	1 ounce
Ammonia water	2 tablespoonfuls

The lace should be placed on a piece of black goods, to show up the discoloration, and sponged well with the preparation on both sides, then allowed to become nearly dry, and pressed with a warm iron on the wrong side, between pieces of black goods, lifting the upper cloth from time to time to help evaporation of the reagents used in cleansing.

Or black lace may be washed the same as white lace and rinsed in a solution of strong coffee.

Silk Lace. There is always danger of white silk lace turning yellow from the alkali of even the mildest soaps. It is well to experiment with a small piece first. The usual method of washing white lace may be employed, but only rain or distilled water should be used, and this should be cool or lukewarm; the lace should not be allowed to lie in the soap solution, and the rinsing must be thoroughly performed. A mere trace of bluing is admissible in the last rinsing water for pure white silk lace, but not for lace of a cream or ivory tint. No detergent except Castile soap should be used in the washing.

Warm skimmed milk and borax are recommended for washing fine silk lace, and white silk lace that has yellowed may be bleached by standing in strong sunshine in a warm solution of borax and skimmed milk.

Only a very cool iron should be used to press white silk lace, to avoid possible discoloration.

SILKS AND RIBBONS

Pongee Silk. Pongee or natural-colored silks are very easily washed, and the general method prescribed for the washing of colored clothes (page 59) or the oatmeal or bran method recommended for natural linen (page 60) may be employed. Pongee should be ironed while wet on the wrong side, or on the right side under a piece of muslin. It becomes crisp under the iron if pressed while wet on the wrong side, and should need no other stiffening; but if ironed under muslin, or if only slightly damp when ironed, it may need a very thin clear starch, or one of the solutions recommended for stiffening laces (see page 77) may be used. Some launderers press pongee directly on the right side, but this gives a shiny appearance which is not desirable.

Colored Wash Silks. Wash according to the general directions for colored clothes (page 59). Different methods and sometimes different reagents are used to dye silk from those used in dyeing fabrics of vegetable fiber, hence the reagents used to preserve and restore colors in cotton and linen goods may not always be successful when used for silk. Trial should be made on a small piece of the goods.

Light-weight wash silks will have a better finish if dipped in weak gum water — about one-half as strong as that recommended for stiffening laces (page 77). These silks should be ironed on the wrong side, and by pushing the iron from side to side with a twisting or wriggling motion, so that the fabric may have softness and pliability.

White Silk. Follow the directions for white silk lace.

To Bleach White Silk. Dissolve one ounce of common salt and one ounce of oxalic acid in three quarts of rain or distilled water. Soak the silk in this for one hour, then rinse well in rain water. This method is employed for silk that has been yellowed by washing in other than rain water, or with strong soap.

Ribbons. Dip the ribbon in rain water and lay it straight

on a flat surface, such as a towel spread over a board or table, or a slab of stone or marble. Rub on each side with a small brush dipped in Castile soap solution, then rinse by passing through two or more clear waters. Wring between the folds of a towel and press on a well-padded table between pieces of cambric. Either taffeta or satin ribbons can be washed in this way, but the brush must be applied only in one direction to a satin surface.

Children's hair ribbons and other very dirty or greasy ribbons may be cleansed with the soaking liquor containing turpentine and ammonia described on page 18. Ribbons, especially taffeta, should never be twisted or rubbed between the hands in washing, for this seems to crack the threads and leaves a permanent crease.

For much worn black ribbons the best cleansing liquor is made as follows: Pour a pint of boiling water over a couple of dozen very young, green leaves of the English ivy. Allow them to stand for two hours, then strain the solution and brush the ribbons thoroughly with the liquid. Rinse and press as already described. This seems to freshen the color and even to restore the fabric of ribbons that have become shabby from wear. The ivy solution is poisonous.

Black ribbons that are not so badly worn may be washed in the ordinary way of washing ribbons.

CHAPTER X

HOME METHODS OF DRY CLEANING. OUTLINE OF TWELVE LESSONS IN LAUNDRY WORK FOR THE USE OF SCHOOLS OR CLASSES

THE term " dry cleaning " is popularly applied to any method of cleansing where water is not used, hence liquid reagents are used in much of the work done under this name. A great deal of such work can be done at home, and a brief explanation of how to use different substances employed will now be given.

Benzine, Naphtha, Gasoline. These are different substances, but each is often sold under the name of one of the others, and their action in cleaning is similar. None of them should be used indoors or near a fire or artificial light. Much friction should also be avoided in manipulating articles to be cleaned when large quantities of these reagents are used, since the heat generated may be sufficient to cause fire.

Beat or brush the garments free from dust and remove the most prominent stains. Then dip and knead in three successive baths of benzine, wringing from each one. The last bath is a rinsing bath. Dry in the open air until the odor is gone. The benzine can be allowed to settle after use, the clear liquid poured off, and this used again and again for the first and second cleansing; but fresh benzine should always be used for the rinsing bath. This method can be used for either naphtha or gasoline, and all articles made of silk or wool can be cleaned in this way.

If the articles are very dirty, a mild soap such as Castile may be used with the benzine, or one of the soaps prepared for this purpose, according to the printed directions.

Velvet or velveteen can be cleaned in benzine, dried until all odor has vanished (it may take a couple of days), the back then rubbed with a solution of gum arabic to stiffen and to prevent the pile loosening, and the pile then brushed lightly on the right side to raise it. Velvet which has the pile flattened should be placed over a warm iron covered with a damp cloth, and the pile lightly brushed in the direction of the grain as the steam rises through the fabric.

Bran, Corn Meal. Rub the articles gently with warm, slightly damp meal or bran. Then shake thoroughly to get out any starchy particles. *Furs* are effectively cleaned by this method, as well as *wool or cotton eiderdown*, etc.

Starch. Either rice or potato starch in powdered form is used. This is rubbed over the soiled surface with gentle friction, then well brushed out. This method can be used for *light-colored silks or satins, crêpe de Chine, cashmere, albatross*, and other fine weaves of wool. For pure white goods of silk or wool a pinch of powdered laundry bluing may be mixed with the starch. *Knitted shawls* or articles which cannot be rubbed owing to the looseness of the weave should be folded over two or three times, then should have the folds lifted and starch shaken between them. The garments should be put away for a day, then opened and the starch shaken out.

Magnesia, French Chalk, Fuller's Earth can be used the same as starch. *Fine laces* are sometimes cleaned by laying in folds with magnesia between in the manner recommended for knitted shawls with starch.

Bread Crumbs. See note after lace curtains on page 76. Satin or brocade can also be cleaned by this method.

OUTLINE OF TWELVE LESSONS IN LAUNDRY WORK

In the arrangement of the matter in the text the aim has been to proceed in logical order. This order has to some extent been changed in presenting the subject to classes, for

reasons based on psychology. The following outline is the result of several years of conducting classes in this subject; it has been found satisfactory, but is here given merely as suggestive. Every teacher will find her own modifications best for her to follow.

Lesson I. Soap making, cold process. Individual portion based on one-half cup of lard. List of garments needed in course given and articles required for individual equipment.

Lesson II. Washing of flannels. Study of water supply available to class.

Lesson III. Removal of stains. Washing table linen. Study of starch and comparison of commercial starches.

Lesson IV. Soaking clothes. Soaking and washing bed and table linen. Study of commercial bluings.

Lesson V. Washing of handkerchiefs and apron. Ironing bed and table linen.

Lesson VI. Disinfection discussed. Washing and boiling of body linen. Ironing apron and handkerchiefs.

Lesson VII. Washing of white skirt. Ironing of body linen.

Lesson VIII. Washing and starching of shirtwaist. Ironing of white skirt.

Lesson IX. Washing of dress shirt, collars and cuffs. Ironing of shirtwaist.

Lesson X. Washing of infants' wear or articles of fine lingerie. Ironing of shirt, collars and cuffs.

Lesson XI. Washing and doing up of laces and embroideries. Ironing fine articles.

Lesson XII. Washing of silk. Dry cleaning. Washing very much soiled articles by the kerosene process.

NOTE. The above lessons occupied three hours each and the class was limited to twelve. Each student furnished the articles to be washed by herself.

CHAPTER XI

DISCUSSION OF THE COMMON REAGENTS USED IN LAUNDRY WORK: WATER, HARD AND SOFT; SOAP, CHEMISTRY OF SOAP MAKING, ADULTERATIONS OF SOAP, SOAP MAKING AT HOME; VARIOUS COMMERCIAL LAUNDRY BLUINGS; STARCH FROM VARIOUS SOURCES, RELATIVE STIFFENING POWER OF DIFFERENT STARCHES. SIMPLE EXPERIMENTS TO TEST HARDNESS OF WATER, TO TEST ADULTERATIONS IN SOAP

WATER

Hard and Soft Water. It is hardly necessary to say that soft water is good for laundry work and hard water is bad, but what constitutes a soft or a hard water and why one is so much to be preferred to the other may be worth a brief consideration.

Water, being a universal solvent, is never found in nature as pure H_2O. Even rain water contains dissolved gases from the air, and the softest water from rivers or springs holds mineral matter from the earth. When the amount of mineral matter so held does not exceed ten to fifteen grains in a gallon, the water may be called soft. Excessively hard water sometimes contains sixty grains of mineral matter to the gallon, and water which holds only half as much is impossible to use successfully for laundry purposes without the aid of a softening agent.

Effect of Hard Water. The harder the water the more soap it takes to make a lather. It has been estimated that two ounces of soap are wasted for every grain of hardness present in one hundred gallons of water used for washing. A housekeeper can calculate for herself the cost of this waste at the end of a year. But the waste of soap is not the worst, for, as will be seen in the next section, the minerals in hard water which are deposited in the meshes of the

fabrics during the process of washing cause a grayish, dingy appearance which resists bleaching and is subversive of fine laundry work. This grayness of the clothes is sometimes due to other causes, but is the inevitable result of the use of hard water.

Temporary and Permanent Hardness. Lime and magnesium are the minerals most abundant in ordinarily hard water. When these occur in the form of carbonates the hardness is said to be *temporary*, for the minerals are held in solution by the carbonic acid gas dissolved in the water; and when this is driven off by boiling they are deposited on the bottom and sides of the kettle in the white coating familiar to housekeepers, and the water is softened to the extent of their removal. When the minerals occur in the form of sulphates and other salts they are not affected by boiling, and the hardness of the water is then said to be *permanent*. Both temporary and permanent hardness are usually present together, and when they are allowed to remain one kind is just as bad as the other for laundry purposes.

To Remove Temporary Hardness. Boiling the water for twenty minutes or half an hour will cause much, if not all, of the temporary hardness to be precipitated. The following modifications of well-known commercial processes may also be employed in the home.

Clark's Process. Dissolve a cupful of quicklime in a pail of water (eight quarts). Add to every eighty gallons of water to be softened one pint of this mixture for every degree of hardness. Eighty gallons of water of average hardness requires fifteen pints. After precipitation is complete the water should be drawn off to another tub.

Phosphate of Soda Process. For every degree of hardness take five grains of phosphate of soda for each gallon of water. Dissolve in a pail and pour the solution into the tub. Draw off the water after precipitation, as before. The residue makes an excellent fertilizer.

NOTE. The phosphate of soda process will remove both kinds of hardness from water.

EXPERIMENTS

To Ascertain Total Hardness in Water. Measure one hundred cubic centimeters of water into a flask. Add, one-half cubic centimeter at a time, a soap solution made by dissolving ten grams of pure Castile soap in one liter (practically one quart) of alcohol, diluted with one-third as much pure water. Shake well after each addition, until a permanent lather is formed which will persist for at least five minutes when the flask is laid on its side. The number of cubic centimeters of soap solution needed to produce such a lather will equal the total number of degrees of hardness.

Another Method. Evaporate to dryness a known quantity, say one-half pint, of water. Weigh the residue. Calculate from this the number of grains of hardness in one gallon of water. (One grain to one gallon equals one degree.)

To Ascertain the Amount of Temporary Hardness in Water. Dilute a known volume of water, say one-half pint, with three times its volume of pure or distilled water. Boil down to the original quantity, cool, decant, boil down to dryness, and weigh the residue. This will give the permanent hardness, and deducted from the total hardness will equal the temporary hardness.

SOAP

The amount of soap used by a nation is said, by no less an authority than the late Baron Liebig, to be a measure of its advance in civilization.

Chemistry of Soap Making. When sodium or potassium hydroxide and fatty substances are brought together a chemical action takes place between them which parallels the simpler chemical action — familiar to all laboratory students — illustrated by the following equation:

$$2NaOH + CuCl_2 = 2NaCl + Cu(OH)_2$$

Here the sodium hydroxide and the copper salt interact and a new sodium salt and a new hydroxide are formed.

The action that takes place in soap making may be thus compared with the equation on page 87:

$$3NaOH + C_3H_5(C_{18}H_{35}O_2)_3 = 3NaC_{18}H_{35}O_2 + C_3H_5(OH)_3$$

Stearin, one of the fats — *Hard Soap* — *Glycerin*

Here, as before, the hydroxide decomposes the fat — which is itself the salt of a fatty acid — and a sodium salt of this acid is produced, which is *soap*, while glycerin is formed in the same manner as was the copper hydroxide in the first equation. See page 87.

Cold and Hot Process Soaps. In soap made by the cold process the lye and the fat are simply stirred together and the glycerin is retained in the soap. In the hot process, where the ingredients are boiled together, the glycerin is thrown off as a by-product. The cold process is used for some toilet soaps and for most of the homemade soaps. The hot process is the one used in the manufacture of commercial laundry soaps.

Hard and Soft Soaps. Hard soap is formed when sodium is the base used to interact with the tallow or other fat in the process of manufacture. Soft soap results when potassium is used. The latter is not now commonly used in laundry work, though it may be a useful detergent if very rough washing — such as dirty overalls or the greasy clothing of workmen in dirty occupations — has to be handled. The softness or hardness of soap also depends, but in a less degree, on the kind of fat used.

Action of Soap in Cleansing. The cleansing action of soap is supposedly due to the fact that like all alkaline salts it is soluble in water, where its components are separated, and the alkali attacks and combines with the grease by which the dirt is mostly held in clothing, forming with it a new soluble combination, so that the dirt is loosened and easily washed away. Hence it will be seen that the rubbing

and other manipulation in washing are needed only to force the soap through the fabrics and should not be employed with more force than is required for this result.

When soap is applied directly to the clothes the intense activity of its components at the moment of separation causes it to be a more powerful detergent than when it is added to the water in the form of an already prepared solution. In the latter case many chemists believe its action is due mainly to surface tension, mechanical lubrication, etc.

Action of Soap in Hard Water. When soap dissolves in hard water it combines with the mineral salts present in the manner illustrated by the following equation, where its combination with carbonate of lime is shown:

$$2NaC_{18}H_{35}O_2 + CaCO_3 = \underset{\textit{An insoluble lime soap}}{Ca(C_{18}H_{35}O_2)_2} + Na_2CO_3$$

These insoluble soaps of lime or magnesium are not only useless as dirt removers, but they will form a disagreeable scum on the surface of the water which, when caught in the weave of fabrics, will fix the dirt and cause discoloration.

DEFECTS AND ADULTERATIONS IN SOAP

Excess of Fat. Good soap will have all of the fat thoroughly saponified. Where what is called " free grease " or unsaponified fat is present the cleansing property of the soap is just so much lessened, and a rancid odor will be developed on storing. Free grease, however, is seldom found in any but homemade soap, the tendency in commercial manufacture being rather to excess of alkali.

Excess of Alkali. Excess of alkali occurs where there is insufficiency of fat. It is hard on the hands and hard on the clothes. Some soaps are advertised to have an extra amount of alkali, consequently to be better detergents, but it is cheaper for the housewife to add the alkali, if needed, at home.

In badly made soaps of home manufacture the chemical combination of the ingredients is often incomplete, and such soaps will contain both free fat and free alkali.

Excess of water. The ordinary cake of laundry soap is an uncertain quantity, for it weighs anywhere from eight to twelve ounces, according to the brand. The weight and volume of soap are sometimes increased by working in an excess of water. The drier the soap the less waste there will be from over-readiness to dissolve. Intelligent housekeepers choose a good brand of soap, buy it by weight, and store it for months before use. It will often lose twenty-five per cent of its water by evaporation.

Excess of Resin. Resin, when not in excess, is legitimately used in the manufacture of laundry soaps. It is cheaper than fat, saponifies readily, and makes a strong lather. It then has detergent properties, and in small amounts will actually help to whiten linen. It is not good when in excess as it will then discolor clothes and will mat flannels. As a rule the very dark-colored laundry soaps contain excess of resin and may be safely avoided for fine washing.

Fillers. In the step of the manufacturing process known as "crutching," substances such as sodium silicate, sodium carbonate, sand, or powdered pumice are stirred into the soap before it is formed into cakes or bars. This process in the hands of unscrupulous manufacturers is a fine opportunity for adulteration.

Soap Powders, Washing Powders. The poorer kinds of soap powders often contain as little as ten per cent of soap. These as well as the poorer washing powders consist chiefly of strong alkalies combined with a filler. While they may be useful for house-cleaning and other operations, they should not be applied to laundry work.

EXPERIMENTS

To Detect Unsaponified Fat. Make a lather of the soap in tepid water, let cool, and examine top of water for a

greasy scum. Good soaps do not leave a film on the surface of the water.

To Detect Excess of Alkali. Melt shavings of soap in hot water, add sulphuric or other strong acid drop by drop. If an alkaline carbonate has been added during crutching, there will be effervescence on the addition of the acid.

To Detect Excess of Water. Weigh the soap, cut in one-half inch slices, and dry at a temperature of 112° F. Weigh after drying, and the loss of water above three per cent shows amount of added water.

SOAP MAKING AT HOME

The advantages of making soap at home are, first, that to do so will utilize the household waste of fat and grease; second, it will enable the housewife to have a pure, unadulterated soap for laundry purposes, thus saving the clothes and saving the hands; third, a homemade soap where mutton tallow is used for the fat will yield a toilet soap excellent in its effects on the skin. The recipe that follows is for a good, all-round soap for laundry, dish washing, or household cleaning in general.

1 can of Babbitt's lye.
4 pounds of fat or grease, melted and strained
1 quart cocoanut oil — rape or cottonseed oil may be used, but cocoanut oil saponifies readily by the cold process
1 heaping tablespoonful of borax
1 quart of cold, soft water

Dissolve the lye in the water, stirring until the whole is in solution. Dissolve the borax in a little hot water and add to the lye. Heat the oil and add this to the fat — the mixture should be about blood-warm — and when the solution of lye is cold add the melted oil and fat, pouring it on in a thin stream and stirring all the while with a stick. The stick should be held upright and the stirring done all through

the mixture, not in one spot only. When about as thick as molasses, or a little thicker, pour the whole into a box lined with oiled paper, cover, set in a warm, dry place, and when solidified, which should be in a day or two, turn out and cut into pieces of convenient size. These should be piled up so that the air may circulate between them; they should not be used for a month.

The chief factors in success in soap making at home are having the fat at the right temperature and performing the stirring thoroughly. When these conditions are right the soap can be made in from fifteen to twenty minutes.

BLUINGS

Two classes of bluings are found in the market for laundry use, those in a solid form and the liquid or bottle bluings.

SOLID BLUINGS

Solid bluings should be tied in a bag or cloth of thick flannel. This is squeezed into a bowl of hot water and added a little at a time to the bluing water until the tint is the right depth.

Indigo. Indigo bluing was formerly of vegetable origin, but is now a product of synthetic chemistry. It is sold in solid lumps and yields a deep, clear blue, preferred by many to the tints yielded by any of the others. Its disadvantage is that it is not soluble, but remains in very fine suspended particles in the water, consequently is apt to settle in the clothes in streaks. It is not much used at present in laundry work.

Ultramarine. This was originally made from lapis lazuli, a rather costly mineral of a beautiful blue. It is now, like indigo, artificially compounded. After being very finely ground it is made up into balls or squares; the better the bluing the more finely it is ground, and the purchaser should reject coarse or gritty tablets, which will speck the clothing. Tablets which show different tints on being

broken should also be rejected as adulterated. The color is lighter and more brilliant than indigo, and the same care must be taken to avoid streaks.

LIQUID BLUINGS

Liquid bluings should be added to water and this poured into the bluing water as directed for solid bluings.

Prussian Blue. This is a ferrocyanide of iron, perfectly soluble and yielding a deep, pure blue resembling indigo. Most of the liquid bluings used in the home are made from Prussian blue. The disadvantage is that, if the clothes are not freed from every trace of soap in the rinsing water, the alkali of the soap will act on the ferrocyanide, decomposing it and setting free the iron, which will either produce a yellow tint or settle on the linen in rust spots.

Aniline Blue. This is a coal-tar product and is used more in commercial laundries than in the home, though its manufacture for home use is increasing every year. Pure aniline blue gives a greenish tint when the linen is much yellowed, and on this account red or violet is sometimes added in the manufacture. The purplish tint that results will disappear on drying. Aniline blue needs the presence of acid to bring out the color, but this is usually provided for in the manufacture. The disadvantage of aniline bluing in inexperienced hands is that the color is a true *dye* and, if used in excess, is difficult to wash or bleach out.

NOTE. Some laundry people use different bluings for different articles, aniline for body linen, ultramarine for curtains, etc. The home laundress had better choose some one bluing, learn to understand it, and gain success in its use.

STARCH

Cornstarch. Cornstarch, produced from maize, is generally used for home laundry work in this country. It is not so fine a starch as some of the others, is apt to make a rough surface, and needs the addition of borax, lard, wax, etc., to give smoothness and flexibility. It has a

greater tendency to form lumps in the making than any other starch. Its color is good, being a dead white, and since it is in general use the recipes for starch making given in a preceding chapter call for the use of cornstarch.

Wheat Starch. This is apt, unless very carefully manufactured, to contain particles of gluten, which will show in semi-transparent patches on the glazed surface of linen after ironing. Wheat starch is smoother and more flexible than cornstarch, but not so white, and when made into very stiff starch it needs to have its slightly creamy tint overcome by the addition of a little bluing. Wheat starch needs almost twice as long cooking as cornstarch.

Potato Starch. This has less thickening property than either corn or wheat, but it penetrates well, is not apt to lump, and is quickly cooked. Its stiffness has a certain papery quality. In an emergency it is easily made at home.

Rice Starch. Rice starch is largely, sometimes exclusively, used in the fine European laundries, particularly in those of France and Belgium, where the work of the *blanchisseuse de fin* is unsurpassed for excellence. Rice is at once the stiffest and the most pliable of the starches already discussed. It penetrates the fabrics thoroughly, gives a fine, smooth finish, and is a pure, natural white. Its costliness alone is against its more general use.

TABLE OF RELATIVE STIFFENING POWER OF STARCHES

Rice	91–100
Corn	87
Wheat	80
Potato	65–68

Sago and tapioca are sometimes used for starch. Sago makes a rather weak starch, not unlike potato in its action, but it is finer and more expensive. It is sometimes used in the textile industry to stiffen lawns, organdies, etc., in one of the final steps of the manufacturing process.

Tapioca is about as strong as rice starch, is the most transparent and colorless of all the starches, and may be used to advantage with colored clothes.

ADDITIONS TO STARCH

Bluing is sometimes combined with commercial laundry starch. In this form the bluing is easier to use, since it will not so readily be precipitated in streaks on the clothes; but as it is mixed with starch in the proportion for a medium stiffening, some uncolored starch must be added if greater stiffness is desired, and perhaps some more bluing must be used where less stiffness is called for.

Alum will whiten starch and in the proportion of one tablespoonful to one-half cup of dry starch will thin it so that it will penetrate the clothes better, while at the same time it will not diminish its stiffening power. The proportion of one tablespoonful of alum to one quart of water is said to make muslins less inflammable in that they will smolder rather than blaze up if they catch fire.

Stearin used to be mixed with starch to produce the highly glazed finish formerly in vogue for collars, etc. The formula for one of the well-known laundry glazes was one hundred parts of wheat starch to seventy-five parts of stearin. The stearin was melted and four times its volume of the starch well stirred in. The mixture was then cooled, powdered and mixed with the remainder of the starch. More or less of this compound was added to the starch for the final stiffening of collars, cuffs, and other articles where the high glaze was liked. Stearin is now used in small quantity to give smoothness and gloss.

NOTE. Impurities are often present in commercial laundry starch, and if the clothes are not well rinsed, these will cause yellowing during the ironing. Even pure starch, if a trace of alkali from the soap is present, will often turn yellow under a hot iron.

CHAPTER XII

LAUNDRY EQUIPMENT. DETAILED DESCRIPTION AND COST OF APPLIANCES USED IN WASHING, DRYING, AND PRESSING OR IRONING

APPLIANCES FOR WASHING

Tubs, Portable. These are made of wood, of galvanized metal, or of fiber. Wooden tubs are clumsy, heavy, and hard to care for. Galvanized tubs are lighter and more satisfactory, but they should be furnished with a wooden attachment for the wringer. Fiber tubs are very light and convenient to handle and keep clean, but when of good quality are more expensive than the others. A tub should hold from twelve to fifteen gallons of water — the larger sizes are preferable as easier to work with and to avoid splashing. From $0.75 to $1 is an approximate price for a portable tub.

Tubs, Stationary. These are made of soapstone, cement, enameled iron, and vitreous ware of various kinds and qualities. Soapstone tubs are not expensive, are easily cleaned and sanitary, but there is an objection in the fact that they are not seamless. Cement tubs are seamless and cost a little less than soapstone, but are not so impervious to friction. Enameled iron tubs will chip and crack if they are subjected to hard wear, but are very good when carefully used. Vitreous ware is considered the best, but it is the most expensive. Stationary tubs should be set sufficiently high for easy work without much stooping — most tubs are so low that they are distressing to work at. The cost of vitreous ware tubs is quoted at about $10 a compartment. A good set tub of cypress, the "wood eternal," is quoted at $7.50.

Wash Bench. This is a bench for holding portable tubs. It should be strong and firm, high enough to obviate much stooping on the part of the worker, and should be broad enough to accommodate soap dish, brush, and other accessories. Cleats nailed on to keep portable tubs from moving will be found very convenient. These benches are sometimes hinged and can be let down when not in use. From $1.50 to $2 should cover the cost of a good bench.

Rubbing Boards. Most of the vitreous ware stationary tubs have a rubbing surface on the side nearest the worker. The portable rubbing boards are made of wood, glass, and metal. The common zinc-covered board is very satisfactory. Some of them are made with a double rubbing surface, some are extra large size, but the usual one-foot wide board is the best for home use. The corrugations should be rounded rather than angular (see page 22). These boards cost about twenty-five cents.

Wringers. It is economy to buy a good quality wringer and as large size as the purse will allow. Rollers of sixteen to eighteen inches in length will admit of the wringing of a full-size blanket when doubled twice lengthwise. The greater the diameter of the rollers the drier they will wring. Wringers may be bought from $2 up; the better grades in larger sizes are much more costly and are quoted from $8 up.

Not everybody understands the proper care of a wringer. The screws that adjust the rollers should be opened when not in use. The rollers should be wiped with a cloth dipped in a weak solution of ammonia, for this preserves the life of rubber goods. Oil or grease should never be allowed to touch the rubber as it dissolves and rots it. Dirty rollers may be cleaned by rubbing them with kerosene; this cleanses by dissolving a thin film of the rubber, hence after cleansing every trace of the oil should be carefully wiped off.

Washing Machines. There are three kinds of washing machines, classified according to their action in cleansing the clothes: (1) those which have a rubbing surface and

cleanse the clothes by friction; (2) those that punch and squeeze the clothes about in the water; (3) those which by suction force the soapy water through the meshes of the fabric. Sometimes a machine includes two of the above features. The housewife should choose only after thorough examination and, if possible, personal trial of the machine. Different machines stress different muscles and in different degrees, so that the movements easy to one woman may be difficult to another. The easier movements are those that are made *in* rather than *contrary to* the direction of the force of gravity. Also, the machines that are light to work and call for a little more time to operate are preferable, for a woman's use, to the heavy machines which demand a great output of energy in a short time.

Boilers. These are made of all copper or of tin with copper bottom. The extra heavily coated tin, guaranteed non-rustable, is very good. A good family size boiler holds ten or twelve gallons of water and costs from $1.50 to $2.50. Some boilers are fitted with a faucet for drawing off the water; these are very convenient.

Clothes Lifters. A plain, smooth, hardwood stick is generally used to lift the clothes from the boiler to the tubs, but blunt-pronged wood or metal lifters are found in the laundry supply stores. These cost about twenty-five cents.

Boiling Bags. Hand-knotted bags of fine twine, one-half inch mesh and about twenty-four inches wide by forty-eight inches long, cost about $1.50.

APPLIANCES FOR DRYING

Drying Closets. These are closets with sectional sliding compartments about seven feet long and seven feet high, which when pulled out disclose a rail for hanging the clothes, and when pushed in make an almost air-tight closet. The clothes are dried by means of steam heat or by carrying within the closet the flue of a small stove. These closets are useful for rainy days, and architects are fond of recom-

mending them for the best equipped home laundries. The clothes will not have the delightful freshness of garments dried out of doors and will require bleaching agents if constantly dried in the closet. Experienced launderers say that the clothes are not so likely to be yellowed by this method of drying if they are not allowed to remain in the closet until "bone" dry, but have the sliding doors drawn out and fresh air allowed to circulate while they are still a little damp. The cost of installing these closets varies, but is not excessive.

Drying Frames, collapsible, shaped something like an inverted umbrella, can be set up on the drying green or in the yard when required, and removed when not in use. They are useful for drying all except very large or heavy pieces. They may be bought for $5 up.

Clotheslines, Hemp. These are soft and will yield more or less to the pressure of the pin, hence are not so apt to wear the clothes. They should be taken down when not in use. The cost of good braided line is quoted at thirty cents for one hundred feet.

Clotheslines, Galvanized. These will not sag, and when put up are permanent. They are rigid and will mark fine things or wear heavy pieces unless a thick strip of goods is placed between the wire and the clothes. When this is done they are very satisfactory, as they last forever. The cost is quoted at twenty-five cents for one hundred feet.

Clothespins. The old-fashioned pin, made from one piece of wood, still holds its own in favor. The chief objection to it is that it can be and in careless hands generally is, pushed down with too much force against the line, thus tearing the clothes. The spring pins are self-adjusting, but do not always hold the pieces well. The spring pins cost five cents a dozen, the other kind two dozen for five cents.

Curtain Frames. Two kinds are on the market: one having the pins fixed to the frame, the other having adjustable pins. The first are $2, the second $3 a set. Padded frames, double, are also made; these are much more costly.

Clothes Baskets. Deep, oval wicker baskets, for taking the wash to and from the drying ground, cost from $0.75 to $1 each. These should be lined at home with white oilcloth or clean muslin to save the damp clothes from being stained by the sulphur commonly used in bleaching the basket reeds.

Clotheshorse. This is a light, folding frame, used either to hang clothes to air after ironing or to dry small pieces before the fire. A serviceable clotheshorse is from five to six feet high and has three folds, each two and one-half feet wide. These are sold from fifty cents to seventy-five cents each.

APPLIANCES FOR PRESSING

Ironing Table. This should be a strong, steady table, of a height of perhaps eight inches below the waistline of the worker. This is not so low as to necessitate stooping, nor so high as to make it difficult to do the work with the weight of the body over the iron, which is the better and easier way. The table should have a drawer in front and a hinged flap at the back, or side farthest from the worker, that can be raised for the ironing of tablecloths, etc. These tables sell from $3 to $6.

Ironing Blankets. Special ironing blankets of felted wool are sold for laundry use. They are either white or gray and sell for sixty-five cents a pound up. A pound weight generally equals one square yard. The cotton table-felt used for dining-room tables will also serve for an ironing blanket, as will a cheap or an old bed blanket. Any of these should be stretched quite smoothly over the table top and fastened with thumb tacks under the table edges.

Ironing Sheet. This should be of a close, even weave of strong muslin. Such goods, two and one-half yards wide, may be bought for twenty-five cents a yard up. The sheet should be washed and ironed, then stretched smooth over the blanket, and fastened in the same way under the table edges.

Sprinklers. Some are shaped like a canister, with one end finely perforated. Others are designed to be connected to the water tap and are constructed like a water faucet, with a perforated nozzle on the head; some of these spray the clothes with a thin mist like a garden-sprayer. There are several other devices for sprinkling clothes, and the price runs from twenty-five cents up.

Ironing Board. This is a board five to six feet in length and two and one-half feet wide at its broader end, which is hinged to the wall. The other end, slightly narrower, is supported on the floor by means of a hinged leg. This contrivance is a substitute for an ironing table and is convenient where there is not much space, for it can be folded against the wall when not in use.

Skirt Board. This, when padded with a blanket and covered with muslin, as are the ironing tables and ironing boards, is used for ironing skirts. The board is slipped inside the skirt and supported at each end while the ironing is being done. Skirt boards run from three to six feet in length. A board five feet long will taper from eighteen inches at its wider end to six inches at the narrower and may be bought for $1 or less.

Sleeve Board. This is shaped like a miniature skirt board with rounded ends and is mounted on a stand. It is very convenient for ironing sleeves. The cost is about twenty-five cents.

Bosom Board or Shirt Board. This varies in size from twelve inches long and eight wide to eighteen inches long and ten wide. It is slipped inside the bosoms of fine dress shirts before ironing and polishing this part. It should be covered first with a single piece of thin flannel, then with fine muslin. The harder and more unyielding the surface the higher polish can be given by the ironer, so that *polishing boards*, made of hard wood and very smoothly finished, are sometimes used instead of the ordinary bosom board. Either kind can be bought for thirty to fifty cents.

Embroidery Board. This is a board which is either shaped

like a bosom board or is square. It is very thickly padded with flannel, over this is a piece of thick, absorbent muslin, and on the outside a covering of fine cambric. It is useful where there is a great deal of embroidery to be ironed, especially raised embroidery.

Pressing Board. A smooth board about one inch thick and large enough to cover one-half of the ironing table is useful, when weighted with heavy irons, to press articles which are preferably not ironed, such as blankets, etc. (See pages 38 and 56.)

Mangle, Cold Roll. This is constructed something on the principle of a wringer. The rolls are made of wood and are large, smooth, and heavy. The clothes must be damp before they are inserted between the rollers; they are smoothed by weight and pressure. The cost varies according to the size of the rollers — a mangle with twenty-four by three and one-half inch rolls, ball bearings, can be bought for $10 or less.

Mangle, Hot Roll. The hot-roll mangle has one roll covered with felt or blanket and muslin like an ironing table. This revolves against a concave metal plate — which is heated by gas, gasoline, or electricity — and acts the part of the sadiron. These mangles are very convenient for flat work and some plain pieces. They are rather costly for the home laundry, a small table machine, twenty-five-inch roller, being listed at $40, a forty-inch standing mangle for $110, and a sixty-inch for $135. A hot-roll mangle run by power is nearly ideal, and the pulley attachment will cost only $15 extra.

Sadirons. The word " sad " is used here in its obsolete sense of *heavy*, meaning a heavy iron. The name is popularly applied to an iron which has an iron handle attached. Those weighing from four to eight pounds are the most common. They are sold by weight and cost five cents a pound.

Mrs. Potts' Irons. These and other similar makes have detachable wooden handles and are very convenient. An

iron costs from twenty-five to thirty-five cents and a handle fifteen cents.

Box Irons. A box iron is hollow inside and made to hold a piece of heated metal — sometimes pieces of hot charcoal — slipped in at the wide end and held by a spring lid. These are easier to keep clean than an iron which has heat applied directly to its outside surface. They are not made in many sizes and cost from forty cents up.

Gas, Gasoline, Alcohol, and Electric Irons are constructed on the principle of the box iron, being hollow within and having the heat applied from the inside. They cost from $4 up and are clean, labor-saving, and in the long run economical.

Flounce Irons. These are narrow irons with a long, slender point and a highly polished surface, very convenient for ironing into gathers. The medium size cost fifty cents apiece.

Polishing Irons. The commonest form of these is a chunky little iron with a morocco or diamond or a smooth face. A polishing iron weighing four pounds will cost about forty cents.

Iron Holders. These are usually made at home, but an excellent holder of oval shape, made of a layer of asbestos next the iron, a layer of wool felt over this, and a covering of linen next the hand, can be bought for a few cents.

Iron Stands. A soapstone iron stand, which will retain the heat and will not be likely to burn the table, sells for twenty-five cents. Other kinds are made of iron or of wire. These should stand high enough from the table to avoid danger of burning the sheet, and should not be varnished or covered with any substance which might soil the iron.

Fluting Irons. These irons have two fluted surfaces, one fitting into the other. The ruffle or trimming to be fluted is first ironed smooth, then laid, a section at a time, between the heated surfaces of the fluting iron, where the flutes are pressed or stamped in. The cost is $1.50 up.

Goffering Irons. These are scissors-shaped instruments, made to plait or crimp rather than flute a ruffle or flounce. They cost about the same as fluting irons.

Puff Irons. These are egg-shaped irons, or irons with a rounded knob, fixed to a stand, over which a puffed trimming can be passed. They are listed at from $4 up.

NOTE. All makes of irons are faced with steel. This should never be allowed to rust, for the rust eats into the surface, dirt collects, and is impossible to remove. Irons should be kept in a warm, dry place, or if stored for any length of time should have the polished surface rubbed with oil.

Plait Raisers. These are made of polished bone, of wood, or of aluminum. They sell from ten cents up, but a spare paper knife will do their work quite as well.

Plait Guide. Where plaited skirts have to be ironed this little device will be found very convenient. It can be adjusted to the depth of the plaits and will save time and labor as well as give better results than trying to fold plaits straight and even without some such aid. These sell from twenty-five cents up.

Rollers for Tablecloths. These can be made at home from rolls of paper. Newspapers, rolled around a piece of broomstick until a diameter of three or four inches is reached, then covered with a piece of clean manila paper, make a very good roller. The papers should not be rolled so tight as to be hard, nor so loose as to crumple easily. It is easier to roll a cloth smoothly and evenly on a rather soft and yielding surface.

NOTE. Other appliances for laundry work, such as bowls, agate kettles or double boilers for cooking starch, spoons, knives, quart and pint measures, pans for soap solution, etc., will suggest themselves to the mind of the worker and can be chosen at her convenience.